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The Bradshaw Lecture

ON

INTRA-PERITONEAL HÆMORRHAGE INCIDENT TO ECTOPIC GESTATION.

Delivered before the Royal College of Physicians of London on Nov. 4th, 1902,

BY CHARLES J. CULLINGWORTH, M.D., D.C.L., F.R.C.P. LOND.,
OBSTETRIC PHYSICIAN TO ST. THOMAS'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—In a remarkable and fascinating essay on Matthew Arnold which appeared in the Literary Supplement to the *Times* of August 8th, 1902, *apropos* of the diversity of Arnold's manifold claims to distinction and of the direction in which, in the writer's opinion, he is most likely to achieve immortality, the essayist gives utterance to the following reflections: "There is nothing," he says, "more thankless than the attempt to influence any field of public action or opinion. If you fail you are a forgotten fool, but if you succeed you are by no means a remembered wise man. Everybody thinks as you once were alone in thinking, but everybody thanks himself and not you for the acuteness or wisdom of his thoughts, and no one can bring himself to believe that what is now the easy and obvious property of all was once the perilous and toilsome discovery of one."

As I read this somewhat striking passage I could not help applying it to matters medical and more particularly to the subject upon which, in view of this lecture, my thoughts happened to be for the moment principally engaged. In the apparent obviousness of the frequent and indeed almost constant association between pelvic hæmatocele and ectopic gestation and in the wealth of clinical experience now available to illustrate that association there is danger of our forgetting that it was to the enterprise and sagacity of a British surgeon whom most of us have seen and known that we and the whole medical profession are indebted for the simplification of what had hitherto been a very difficult, obscure, and complicated subject and for inaugurating a new era in the study and understanding of pelvic hæmatocele. Among the many and great achievements of Lawson Tait I know of none to compare in their far-reaching beneficence with the revolution he effected in the knowledge and treatment of the hæmorrhages of ectopic gestation. He was the first to give us the basis of a true explanation of ordinary pelvic hæmatocele and he was the first to make a serious attempt to save life in those terrible and almost invariably fatal cases of ruptured ectopic gestation with diffuse intra-peritoneal hæmorrhage. Others had suggested opening the abdomen and stopping the hæmorrhage, Lawson Tait was the first to have the pluck to do it.

The subject which I have chosen for my lecture is "Intra-peritoneal Hæmorrhage Incident to Ectopic Gestation." This covers both the limited and the unlimited effusions of blood due to this cause, but I have used the word "hæmorrhage" in the singular designedly in order to emphasise the fact that the difference is one of degree rather than of kind. Whether the blood poured out into the peritoneal cavity becomes encysted or remains free depends chiefly on the extent of the hæmorrhage and the rapidity with which the blood is poured out. In other words, it depends on the number, position, and size of the torn blood-vessels. If the hæmorrhage is considerable and takes place rapidly, as where one or more large vessels are torn, there is not time for the blood to surround itself with a wall of adherent viscera or a capsule of adventitious tissue and laminated fibrin; it escapes into the general peritoneal cavity and remains diffused amongst the abdominal viscera. Such diffuse intra-abdominal hæmorrhage occurring in a woman during the child-bearing age is usually due to a ruptured ectopic gestation. But before discussing its etiology I should like to draw attention to its diagnosis. There are no cases that test the diagnostic powers of the physician more severely than those which may be grouped under the head of acute abdominal cases. A patient is seized with sudden and acute pain in the abdomen, accompanied perhaps with vomiting, and very soon becomes alarmingly ill. There is probably no loss of consciousness. There may be no rise of temperature. The physician is sent for and at once recognises, from the suddenness and severity of the attack and from the more or less marked collapse of the patient, that he is face to face with an unusually grave condition. What is it that has happened? The problem is not always an easy one and yet the patient's life may depend upon its correct solution.

I cannot, of course, within the compass of a single lecture pretend to give (even if I were competent to do so) the differential diagnosis of all the various accidents that may give rise to the symptoms just mentioned. But of the one with which we are at present specially concerned (diffuse intra-peritoneal hæmorrhage due to ectopic gestation) I have seen a sufficient number of instances to enable me to speak of it from my own experience. For this reason, and also because some of its signs and symptoms are misleading, I purpose drawing your attention for a few moments to some of what I have been led to regard as the more important points in its diagnosis.

It may be stated at the outset that its signs and symptoms consist, speaking generally, of the signs and symptoms of an acute and sudden abdominal lesion, *plus* those of severe internal or concealed hæmorrhage, and that whenever these are present in a female patient during the child-bearing age the probability of their being due to a disturbed ectopic gestation should be vividly present to the physician's mind. The first symptom is the occurrence of a sudden and severe pain in the abdomen, accompanied very often with vomiting. The patient almost immediately expresses herself as feeling extremely faint and ill. She is quite conscious and remains so. The abdomen is often more or less distended and rigid and it becomes excessively tender. There is soon noticed, along with the usual signs of collapse, a gradually increasing pallor of the surface. The pulse increases in frequency, without at first any corresponding rise in the temperature, and becomes weaker and more compressible. Presently it is only now and then that it is perceptible and finally it cannot be felt at all. The patient complains of feeling more and more faint; her pain, perhaps, abates; she becomes restless, sometimes vomits, often sighs deeply, yawns and exhibits other signs of weariness, and, if left untreated, gradually sinks, maintaining a perfectly clear intellect to the last.

Such is a picture, imperfect, as all attempts to describe such a condition in words must be, of the clinical aspect of a patient with diffuse intra-abdominal hæmorrhage. Now and then the bleeding becomes spontaneously arrested, the patient rallies, and if no fresh outburst occurs the blood becomes gradually absorbed and the patient recovers. But the condition is one in which no such fortunate result can be counted upon and in which the tendency is not to recovery but to death, and to very speedy death, for the majority of cases end fatally within 48 hours and many within a much shorter time. In the case of the wife of a medical friend of my own death occurred within three hours from the beginning of the attack.

If I were asked upon what points I should principally rely in diagnosing this condition I should be disposed, in the light of my own experience, to enumerate the following:—1. The fact that at the moment of the attack the patient was in her usual health. This circumstance would render it highly improbable that the symptoms were due to gastric or intestinal perforation or to rupture of an internal abscess or suppurating cyst. 2. The gradually increasing pallor of the patient and the gradually rising pulse-rate (without a corresponding rise of the temperature), both being indicative of internal hæmorrhage. 3. The extreme tenderness of the abdomen. To this symptom I have learned to attach a very special value. It often misleads the medical attendant into supposing that there is acute general peritonitis. It cannot therefore be too strongly insisted upon that marked and even excessive abdominal tenderness does not necessarily indicate an inflammatory condition. It is met with, for instance, over ovarian tumours when as the result of rotation of the pedicle they have become the seat of hæmorrhages, intra-cystic and intra-mural. It is quite true that peritonitis is a not infrequent later result of this accident, but this marked tenderness may be observed when on opening the abdomen there is no visible sign of inflammation. 4. If a menstrual period has been missed or is overdue the

diagnosis of the case is greatly facilitated, but it does not follow that because menstruation has been regular rupture of an ectopic gestation may be excluded. For some of the most appallingly sudden cases of rupture occur (as I hope to point out later) at a very early stage of the pregnancy, even, it may be, before a single period has been missed. Hence arrested menstruation is not essential to the diagnosis, though when present it is a valuable help to it. If, in addition to the arrested or delayed menstruation there is morning sickness the diagnosis is even further facilitated. But, after all, these signs of early pregnancy do not prove very much. They do not even prove that the pregnancy, if present, is ectopic, or that, whether it is or not, it has anything to do with causing the present illness. All that can be said is that when symptoms are present that suggest the possibility of a ruptured ectopic gestation these signs of pregnancy serve to confirm the suspicion.

These are, so far as I have been able to observe, the main helps to a correct diagnosis.

There still remain to be considered one or two other points of diagnosis of less importance than those just indicated. It is frequently stated in text-books that when there is intra-abdominal hæmorrhage there will be the usual signs of the presence of free fluid in the peritoneal cavity. In a case of very extensive effusion and in a patient without much fat in the abdominal wall it may be possible to obtain evidence of fluctuation and of dulness in the flanks shifting on change of posture, but such evidence is not usually forthcoming. Lastly, a word must be said as to the evidence obtained by vaginal examination. Here, again, the signs are not very definite. There is no distinct circumscribed swelling to be felt as in the case of encysted effusions (pelvic hæmatocele). All that can be made out is, in the words of my friend Mr. John W. Taylor,[1] "a full and boggy condition of the pouch of Douglas, suggestive to the experienced finger of the presence of fluid or semi-clotted blood within the pelvis, but," as he goes on to say, "the symptoms denoting that a lethal hæmorrhage is actually taking place are of chief importance." There is very often a slight hæmorrhage going on from the vagina, generally regarded by the patient either as due to the appearance of a delayed menstrual period, or, if she believes herself to be pregnant, as indicating the probability of a miscarriage. Owing to the gradual subsidence of the pain and the absence, as a rule, of anything like alarm about herself in the patient, the extreme gravity of the condition may easily be overlooked. In fact, as Mr Taylor has pointed out, it is more frequent to find that the medical attendant has failed to appreciate the danger than that he has made an incorrect diagnosis.

I do not purpose on this occasion to enter at length into the general question of treatment. At the same time I cannot conclude my clinical picture of diffuse intra-abdominal hæmorrhage without a word of congratulation upon the unanimity that now prevails as to the absolute necessity in such cases for prompt surgical treatment. In the year 1875 Dr. John S. Parry, whose monograph on "Extra-uterine Fœtation," based upon the published records of 500 cases, presents an admirable example of patient labour and careful investigation, wrote in burning words of the helpless attitude of the profession at that time when confronted by this terribly fatal form of hæmorrhage. He spoke of it as an anomaly which had "no parallel in the whole history of human injuries," and made a powerful appeal to his professional brethren to adopt the only remedy that could possibly "rescue a woman under these unfortunate circumstances." For some years this appeal was practically disregarded. But in 1881 a notable incident happened. A general practitioner in the Midlands, a Mr. Hallwright, sent for Lawson Tait "to see with him, in consultation, a patient who had arrived by train from London in a condition of serious illness, that illness having been diagnosed by Mr. Hallwright as probably hæmorrhage into the peritoneal cavity from a ruptured tubal pregnancy. With this diagnosis Tait agreed. The patient was blanched and collapsed and Mr. Hallwright made the bold suggestion that Tait should open the abdomen and remove the ruptured tube." "The suggestion," says Tait, "staggered me and I am ashamed to have to say I did not receive it favourably. I saw the patient again ..... and again I declined to act upon Mr. Hallwright's request and a further hæmorrhage killed the patient. A post-mortem examination revealed the perfect accuracy of the diagnosis ..... and I now believe that had I operated the patient's life would have been saved." Taught by what he rightly calls "this terrible lesson" Tait was thereafter keenly on the alert and when the next case presented itself, 18 months later, he at once opened the abdomen, arrested the hæmorrhage, and removed the bleeding tube. Unfortunately this, his first case, was, to his bitter disappointment, unsuccessful. Nevertheless, he had at last inaugurated the only rational treatment and the result has been that a large number of valuable lives have since been saved. For notwithstanding its failure in the first case this operation, both in Tait's own practice and in the practice of those who have followed his example, has probably been attended with more successful results than any equally important operation of modern surgery. A case that happened to myself shows in what apparently hopeless circumstances success may be achieved. A woman, aged 27 years, who had missed one menstrual period and had reason to believe herself about a month advanced in pregnancy, was suddenly seized with very severe pain in the abdomen on rising from the act of micturition at 8.30 one morning. She lay down again but the pain became worse and before an hour had elapsed she was in a state of collapse. When her medical attendant reached her at 11.30 the pain had somewhat diminished, but she was pale, cold, restless, and pulseless. I saw her about 4 o'clock in the afternoon. It was evident that the case was one of ruptured tubal gestation with profuse intra-abdominal hæmorrhage. As the patient was still pulseless it needed some courage to advise an immediate operation. Nevertheless I did so, feeling satisfied that the risk of waiting was greater than the risk of operating. Consent was obtained, the necessary preparations were made as quickly as possible, and at 5.30 the abdomen was opened. Two and a half pints of blood were found free in the abdominal cavity. In the right Fallopian tube there was a small rent with fragments of tissue and clot adherent to its edges. The operation lasted for half an hour. No pulse could be felt during the whole of that time or for three hours afterwards. Then it began again to be perceptible and from that time the patient made an uninterrupted recovery.

Before speaking of the morbid anatomy of diffuse intra-peritoneal hæmorrhage connected with ectopic gestation, I wish to say something of the *non-diffuse* or *encysted* forms—in other words, of pelvic hæmatocele. A majority, probably a very large majority, of cases of pelvic hæmatocele is due to ectopic gestation. As it is with these cases alone that I have to deal in this lecture the rarer cases, due to some other cause, may for the present be left out of consideration. It is evident, therefore, that in regard to the question of diagnosis it will be necessary to take note of the signs and symptoms of pelvic hæmatocele together with the characteristic features of early ectopic pregnancy and especially of early ectopic pregnancy that has been interrupted.

Pelvic hæmatocele is ordinarily characterised by irregular uterine hæmorrhage and by attacks of abdominal pain, more or less severe, and often accompanied with vomiting, followed by the development of a distinctly circumscribed swelling which may either be limited to the region of the uterine appendages on the affected side, or may more or less fully occupy the whole of the posterior part of the cavity of the pelvis and encroach upon the lower part of the abdominal cavity. The irregular hæmorrhages and the pain are almost equally constant symptoms. Thus, amongst the 30 cases that during the last five years have been verified in my own practice as due to ectopic gestation, 25 are recorded as having had both pain and hæmorrhage, two as having had hæmorrhage alone without pain, and three as having had pain alone without hæmorrhage. In other words, hæmorrhage is recorded as having been present in 27 out of the 30 cases and pain in 28 out of the 30. When both symptoms are present the onset of the two may be simultaneous, but either of them may precede the other by periods varying from a few hours to several days. With regard to the character of the discharge it is for the most part dark in colour, moderate in amount, fairly thick in consistence, and, while it lasts, steady in its rate of flow. There are in some cases occasional gushes of bright red blood, but the general characters of the discharge are such as I have described them. This uniformity in its physical characters gives to the discharge in my opinion a considerable diagnostic value.[2]

[1] On the Diagnosis of Extra-uterine Pregnancy. THE LANCET, Sept. 17th, 1892, p. 653.

[2] There is, for example, no condition for which a disturbed ectopic gestation is more frequently mistaken than a threatened or incomplete uterine abortion. The physical characters of the blood discharged per

The appearance of the decidua in the vaginal discharge helps to confirm the diagnosis, though, unfortunately, it often escapes observation. This membrane may be expelled either entire or in fragments. It differs from that expelled, in membranous dysmenorrhœa only in being thicker and in the fact of its expulsion being an isolated and not a periodical phenomenon.

The pain is usually sudden in its onset and at first very severe. It soon abates, however, and in a few hours may for the time pass off altogether. It not infrequently follows some special strain. Its ordinary situation is one or other iliac region. It often recurs, the recurrence appearing to mark fresh internal hæmorrhages.

Amongst the less constant symptoms may be enumerated the following—viz., faintness, which occurred in about one-third of the 30 cases; nausea and vomiting, which occurred in about one-sixth; rise of temperature, which is recorded as having been present in about the same proportion; and retention of urine, which was met with in two cases.

No symptom is more misleading than the vomiting. It is constantly accepted as proof that the mischief is in the appendix vermiformis, or at any rate that it is intestinal.

The only other symptom that calls for special mention is the occasional rise of temperature. From observations that I have been able to make when the symptoms of a case of pelvic hæmatocele are in an acute stage—i.e., during the first attack of pain or during subsequent attacks indicative of fresh hæmorrhages—I am inclined to think that the proportion of cases in which there is some rise of temperature is in reality much greater than that represented by the figures here given. I believe, in short, that it is rare to meet with a case of pelvic hæmatocele without at least temporary rises and sometimes the rise extends to several degrees. In one of my earlier cases in which the patient was under observation for five days before operation the temperature during that time was never below 99·6° F. and it was generally much higher, frequently reaching 102° and on several occasions mounting to 103° and 103·4°. Yet the case proved to be an ordinary hæmatocele, with only the usual amount of adhesive peritonitis and with no evidence of putrefactive or other morbid alteration of the effused blood. Alluding to this point in an address delivered in 1897 I spoke of it as somewhat remarkable that this question of the temperature had not hitherto received attention, and I recorded my belief that it is the non-recognition of this liability for the temperature to rise when internal hæmorrhage is going on that leads to so many cases of tubal gestation with hæmatocele being erroneously diagnosed as cases of pelvic peritonitis. The abdominal pain, the extreme tenderness, and the distension tend further to mislead the medical attendant and the gradual development of the swelling caused by the formation of the hæmatocele is regarded as an inflammatory exudation. As in the case of the diffuse form of intra-peritoneal hæmorrhage the diagnosis will be much facilitated if the patient is known to have missed one or more menstrual periods.

I pass on now to the physical signs of pelvic hæmatocele. In a typical case the swelling is situated centrally and as regards the two sides of the pelvis is symmetrical. But typical cases are rare in medicine and certainly in this instance they are, in my experience, quite exceptional. Looking over the notes of my last 30 cases, for example, I find only one or two that can be said to correspond with the usual text-book description of a retro-uterine hæmatocele. The ordinary condition of things met with in the pelvis on bimanual examination in the majority of cases that have come under my notice was as follows. There was an irregular, tender, fixed swelling, usually at first of the consistence in the greater part of its extent of soft blood clot, but sometimes almost entirely of fluid consistence, situated behind the uterus, pushing that organ forwards and perhaps to one side, distending Douglas's pouch, depressing the vaginal vault, bulging into the rectum, and extending laterally into, and filling more or less completely, one or other of the posterior pelvic fossæ. If the quantity of blood effused was at all considerable the swelling was found to have reached upwards into the abdomen, the height to which it extended varying, of course, according to the size of the mass. It often reached to a considerably higher level than the top of the fundus uteri and not infrequently extended up to, or within a very short distance of, the umbilicus. The upper limit of the swelling was usually higher on one side than on the other and was irregular owing to the adherent viscera that helped to form its roof. The outline of the swelling is difficult to make out at first owing to the general abdominal distension, the rigidity of the muscles, and the extreme tenderness of the swelling itself. But in a few days these conditions are altered and it becomes much easier to distinguish the outlines and consistence of the swelling. The general intestinal distension will by that time have somewhat subsided, and the tenderness of the swelling itself and the rigidity of the abdominal walls will have become much less marked. At the same time the peripheral portion of the mass will in all probability have become hardened and better defined owing to the deposit upon the inner surface of the sac wall of layers of fibrin derived from the blood-mass of the hæmatocele. The uterus itself is generally a little enlarged as well as being displaced forwards and is adherent posteriorly. A pulsating vessel may often be felt in one or both of the lateral fornices of the vagina but this is not specially characteristic, as it occurs in many other conditions. Often one part of the swelling will feel more or less hard and nodular, usually the lower surface of the lateral portion. This irregular hardness is caused by the thickened, distorted, and adherent uterine appendages and other pelvic viscera forming part of the inclosing wall. It is not uncommon to find the swelling even more distinctly one-sided than I have here described it, and I have seen not a few instances in which Douglas's pouch so far from being distended has been empty. For the position of a hæmatocele depends not so much upon the influence of gravitation as upon the position that happens to be occupied by the Fallopian tube at the time of the formation of the hæmatocele. It is not by any means unusual to find that a hæmatocele of comparatively small dimensions has been formed immediately around the aperture through which the blood is escaping. This is especially apt to be the case where the blood escapes very slowly, drop by drop, and where the whole quantity effused is inconsiderable.

The conditions from which pelvic hæmatocele requires to be distinguished and for which it is most frequently mistaken are retroversion of the gravid uterus, ordinary abortion, inflammation of the uterine appendages with or without a new growth, and an unsuspected ovarian cyst with sudden twisting of the pedicle.

The presence in Douglas's pouch of a fixed mass about equal in size to that of the pregnant uterus at the end of the third month, taken together with a history of missed menstruation and perhaps some other signs and symptoms of early pregnancy, not unnaturally suggests retroversion of the gravid uterus. If retention of urine, a rare but still an occasional symptom of pelvic hæmatocele, be present the mistake is still more likely to be made. The history of severe attacks of pain with more or less persistent hæmorrhage from the vagina should put the observer on his guard. If the uterus can be clearly made out to be but slightly enlarged and to be lying in front of the swelling the difficulty is at an end—the case is obviously not one of retroversion. But as the use of the sound is, save under very exceptional circumstances, contra-indicated in these cases, and as without it it is often extremely difficult to be sure whether the small body felt in front of the swelling is the entire uterus or is merely the sharply defined, hard, and perhaps elongated cervix of a pregnant and retroverted uterus of which the body is comparatively soft and flaccid, this sign is not always available. Hence it is necessary to have other means of distinguishing a retroverted gravid uterus from a pelvic hæmatocele and such means will be found (1) in the consistence and (2) in the rhythmic contractions of the pregnant uterus. If the swelling be fairly soft in its consistence and well defined in its outline it is almost certain not to be a hæmatocele, and if it can be felt alternately to contract and to relax it is quite certain, not only that it is not a hæmatocele, but that it is the pregnant and retroverted uterus. It is very important that the distinction should be made, for there is always the liability in cases of pelvic hæmatocele for fresh hæmorrhage to take place, with the result of the giving way of the hæmatocele and the escape of blood into the general peritoneal cavity. But even without the

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vaginam often help to distinguish the one condition from the other. In contrast with the features I have above described as usually characterising the blood discharged in cases of pelvic hæmatocele, the discharge in uterine abortion is often very copious, fitful in its rate of flow, and variable in its colour and consistence. Gushes of bright red blood are apt to be both more abundant and more frequent and these alternate with the passage of clots.

intervention of fresh hæmorrhage nothing is more likely to bring about such a disaster than manipulations undertaken with a view to the elevation of the mass under the supposition that it is a retroverted pregnant uterus.

The cases in which a disturbed tubal pregnancy with hæmorrhage and hæmatocele is taken to be an ordinary abortion are in everyday practice probably more numerous than those in which it is taken to be a retroverted gravid uterus. The latter is the mistake of the painstaking practitioner who at least takes the trouble to make a vaginal examination. The former is the blunder of the busy man who hurries through his work. He hears of a missed period, of irregular hæmorrhage, and of attacks of pain, and, without making any internal examination, he jumps to the conclusion that the case is one of threatened abortion and advises the patient accordingly. Presently some portions of membrane are perhaps shown to him as having been passed in the vaginal discharge, when, not finding any embryo and hearing that the patient is still having attacks of pain, he explains that the ovum has not entirely come away and that the pains may be expected to continue until that has happened. And so the case passes unrecognised until some more serious attack alarms both practitioner and patient, or until the patient becomes weary with fruitless waiting. Then is done what ought to have been done at the outset. An examination is made, the abnormal pelvic swelling is discovered, and the idea that the case is one of ordinary abortion is dispelled. I have already alluded, when describing the character of the blood discharged per vaginam in cases of disturbed ectopic gestation, to another point of difference between them and cases of ordinary abortion—viz., the fact that the latter are almost always attended with a large amount of hæmorrhage and with the passage of clots, which is seldom the case in a disturbed ectopic gestation.

Inflammatory conditions, suppurative or non-suppurative, of the uterine appendages, especially if the condition be associated, as it very often is, with some enlargement of the ovary from early cystic disease, often simulate, in the physical signs to which they give rise, a pelvic hæmatocele. The suspicion of pelvic hæmatocele is possibly confirmed by the arrest of the menstrual function. Here our principal safeguard against blunders is to be found in the patient's history. When such inflammatory conditions are present there is almost invariably a history either of past or recurrent attacks of pelvic inflammation, or of chronic pelvic pain, or of a purulent discharge from the vagina. But here again there are exceptions, of which I had two remarkable instances under my care this last summer at St. Thomas's Hospital. In both of them the physical signs were equally compatible with the diagnosis of inflamed and enlarged uterine appendages and with that of pelvic hæmatocele, while the clinical history seemed to be only compatible with the latter. Thus, in the first case, that of a married woman, aged 32 years, the patient stated, and persistently adhered to her statement, that she had had no previous illness, that her present symptoms began less than a month before with slight hæmorrhage that lasted a fortnight, and that it was only after this had ceased—viz., 12 days before her admission—that she was seized with sudden and severe pain in the lower part of the abdomen. Yet, notwithstanding this history it was found, when the abdomen was opened, that the case was one of chronic suppurative inflammation of both Fallopian tubes with extensive adhesions seriously implicating the large bowel. There was no sign of tubal gestation or of hæmatocele.

The second case was admitted whilst the first was still in the ward. The history was, if possible, even more misleading and more difficult to understand than in the first case. The patient, aged 28 years, had been married seven years and had never been pregnant. She had always menstruated regularly. Three weeks before her admission after amenorrhœa for two months, which she naturally thought was due to pregnancy, she had some loss of blood per vaginam lasting for two days. Since that she had for the first time suffered from pain, never very severe, in the left iliac region and there had been some rise in the temperature. On one occasion she was said to have had a temperature of 104° F. The history, if not exactly typical (for there had been no persistent hæmorrhage per vaginam), was, to say the least, strongly suggestive of tubal gestation with hæmatocele and certainly seemed to exclude any chronic suppurative inflammatory process in the pelvis. Nevertheless, the case proved to be a double tubo-ovarian abscess. There was an inflamed and suppurating Fallopian tube on each side and each tube was in direct communication with the interior of a suppurating ovarian cyst. The two swellings were intimately adherent to the uterus and to each other, the whole forming a single mass. There was no hæmatocele and there was no tubal gestation. Here, as in the preceding case, it is difficult to explain the absence of any history of pain or ill-health until the three weeks immediately preceding the patient's admission. The two cases together well illustrate the difficulties of diagnosis that occasionally arise.

My friend Mr. Taylor has called attention in his monograph to the similarity in symptoms and physical signs between pelvic hæmatocele and an ovarian cyst with intra-cystic hæmorrhage from twisted pedicle. I can from personal experience fully corroborate his statement that the one may easily be mistaken for the other. "The sudden abdominal pain," writes Mr. Taylor, "which characterises the final twist of an ovarian pedicle, when the return circulation is obstructed, the vomiting and faintness which accompany this, and the rapid formation of a prominent and tender tumour, are all suggestive" of a tubal pregnancy with hæmatocele and when accompanied (as axial rotation of an ovarian pedicle sometimes is) "with menstrual irregularity the history also may favour the suspicion." When a tumour is known to have existed the diagnosis is comparatively easy. But in many of these cases the existence of a tumour has not previously been suspected and it is in these cases that difficulties are likely to arise. In differentiating the one condition from the other, Mr. Taylor places the chief reliance upon the fact that an ovarian tumour is seldom so closely connected with the uterus as a tubal pregnancy would be. To this point of difference I should be inclined to add another—namely, that whereas in twisting of the pedicle a tumour can be found at once and can be observed quickly to increase in size, in tubal gestation with hæmatocele a tangible tumour is not formed at once. It is usually a few days from the onset of the attack before anything very definite in the shape of a swelling can be made out.

Having endeavoured to draw a clinical picture of intra-peritoneal hæmorrhage resulting from an interrupted ectopic gestation and having called attention to the principal points in diagnosing the condition (1) where the hæmorrhage is diffuse, and (2) where it is more or less completely encysted in the form of a hæmatocele, I now pass on to speak of the disturbances to which an ectopic gestation is specially exposed and of the manner in which these disturbances produce intra-peritoneal hæmorrhage. It has long been known on the authority of the post-mortem room that diffuse intra-peritoneal hæmorrhage, occurring in the female subject during the child-bearing age, is most commonly associated with one or other form of ectopic pregnancy. Our knowledge of the almost equally constant association of pelvic hæmatocele with the same condition is comparatively much more recent. Most of my hearers will remember the feeling of despair with which they arose from the perusal of the chapter on pelvic hæmatocele in the text-books of their student days. The account of its etiology was nebulous and unconvincing. The array of possible sources of the hæmorrhage was formidable in its length and ingenious in its variety, but in regard to many of these the evidence was exceedingly slight and the acknowledged rarity of most of them did not fit in even with the imperfect knowledge we then had of the frequency with which pelvic hæmatocele occurs. Even Bernutz, with his admirable series of well-recorded cases and observations of post-mortem appearances, was tempted to build up a theory which would not bear criticism. I allude, of course, to his theory on the subject of menstrual regurgitation.

I have already spoken of the obligation we are under to Lawson Tait for advancing and simplifying and placing upon a sound basis our knowledge of the etiology of pelvic hæmatocele. He it was who, supplementing clinical observation by actual inspection and handling of the parts concerned, came to see how much of the current teaching on the subject was conjectural and to recognise the fact that in the vast majority of cases pelvic hæmatocele, like diffuse intra-peritoneal hæmorrhage, is due to some disturbance of an ectopic, generally of a tubal, pregnancy. The particular disturbance to which for some time both these varieties of intra-peritoneal hæmorrhage, when connected at all with ectopic gestation, were held to be invariably due was rupture of the gestation sac. The rupture was supposed to be brought about by the Fallopian tube becoming stretched and thinned by the growing ovum until the thinning of the

tube at that part became so extreme that a comparatively slight strain sufficed to cause it to give way. But it gradually became evident that this simple explanation of the liability of an ectopic gestation to undergo rupture did not take into account all the factors that were usually concerned in the production of rupture. Observers, both at home and abroad (amongst whom ought to be specially mentioned the names of Werth in Germany and Bland-Sutton in this country), began to call attention to the frequency with which rupture was found to have been preceded by the occurrence of hæmorrhage within and around the ovum itself. Later still it was realised that intra-peritoneal hæmorrhage in connexion with ectopic gestation might occur without rupture, the blood escaping not through a rent, but from the free end of the pregnant tube. And eventually it was found that whereas diffuse intra-peritoneal hæmorrhage was in the majority of cases due to tubal rupture and only occasionally to leakage from the open fimbriated end of the tube, the encysted form of intra-peritoneal hæmorrhage, or pelvic hæmatocele, was most frequently due to leakage from the mouth of the tube and only in a comparatively small number of cases to rupture. In other words, it was observed that the ordinary result of tubal rupture is a diffuse and highly dangerous intra-peritoneal hæmorrhage, whilst the ordinary result of bleeding from the mouth of the tube is the formation of a hæmatocele.

Before speaking of the changes that take place in and about the ovum prior to these catastrophes it may be useful to give a brief sketch of what is at present known as to the more usual train of events during the weeks that immediately follow the abnormal arrest of a fructified ovum on its way to the uterus. In the vast majority of cases of ectopic gestation the gestation begins in the Fallopian tube. Up to a very recent date the statement that every ectopic gestation is, or began by being, tubal would have been accepted as correct. But within the last few years several indisputable instances of ovarian pregnancy have been recorded, so that such a statement can no longer be made. Nevertheless, it remains true that, with very few exceptions, an ectopic gestation means a tubal gestation.

The fertilised ovum may be arrested in any part of the Fallopian tube. The arrest takes place most frequently in the wider or more curved portion known as the ampulla, but the ovum may also lodge in the infundibulum—i.e., at the fimbriated end—or, more rarely, in the narrow, straight portion, known as the isthmus, at the uterine end, or, most rarely of all, in that part of the tube which, lined by mucous membrane but no longer surrounded by any other distinct coat, tunnels its way through the uterine wall and opens into the uterine cavity.[3]

The subsequent fate of the fertilised ovum is largely determined by the site of the gestation. When it is arrested, for instance, within the uterine wall its comparatively early death appears to be all but inevitable, and when it is arrested immediately outside the uterus its life appears to be almost equally, if not more, precarious. In the middle and outer portions it has a better chance, but even here it succumbs in the great majority of cases to one or other of the dangers that threaten it and it is rare for its development to continue long enough for the fœtus to become viable and still rarer for it to continue up to full term. In whatever part of the tube the fertilised ovum lodges a localised swelling is produced, slight at first, but gradually increasing in size with the size of the ovum. Simultaneously there occurs a general hyperæmia of the pregnant tube and of the parts in immediate connexion with it, all the vessels of the neighbourhood undergoing an increase in size. The tube wall seldom becomes hypertrophied. The usual result, indeed, is for it to become attenuated as it is expanded by the growing ovum which, of course, it completely and closely surrounds. But the chief interest centres in the mode of attachment of the ovum. Though everywhere in contact with the tube wall, it only becomes actually attached to it over a limited area. This area forms the site of the future placenta, the chorionic villi which at first completely surround the ovum becoming specially developed there and penetrating the tube wall even up to its outer coat. The result of this ingrowing of the chorionic villi is that the muscular fibres become separated and the tube wall becomes at that spot sensibly weakened. The separation of the muscular fibres is still further increased by an infiltration of large nucleated cells. Clarence Webster, in his interesting monograph on "Ectopic Gestation," describes a decidua vera and decidua serotina as being formed in the pregnant tube. This interpretation of the microscopic appearances has not been generally accepted, but, whether it be the true one or not, it is certain that the mucous membrane and submucous tissues over a definite area undergo alterations which enable them to fulfil the functions of a decidua serotina, however imperfectly. Meanwhile, a membrane, which all authorities agree in regarding as a membrana decidua, is being formed in the uterine cavity and the uterus itself is undergoing enlargement. This enlargement continues if the ovum lives for the first two or three months much as it would do if the gestation were intra-uterine. But about the end of that time the uterus appears to find out that it has been cheated and ceases to grow, though as long as there is a living and growing ovum in its neighbourhood it does not retrieve its blunder—does not, in other words, commence to undergo the process of involution.

It will be easily understood that rupture of the gestation sac is specially apt to occur at the spot where the tube wall is weakened and where it is often not only weakened but much thinned. Cases have been observed where nothing intervened between the ovum and the peritoneal covering of the tube wall but a little newly organised connective tissue together with some of the cellular elements already mentioned. One case is described where a partially organised blood clot lying in the intervillous space and covered by peritoneum was all that remained to represent the tube wall at the seat of rupture. It is evident from what has been said that processes are at work which greatly predispose to rupture. A little extra strain upon the capacity of the intervillous spaces containing the maternal blood, or the occurrence, by no means infrequent, of an interstitial hæmorrhage, is quite enough to bring about a catastrophe. In some cases the catastrophe is for a time averted by the formation of an inflammatory deposit on the outer surface of the peritoneum over the placental area, but this is seldom more than a temporary safeguard. Such a layer of adventitious tissue is not sufficiently elastic to bear any considerable amount of stretching and before long it, too, gives way and the rupture is complete. Probably owing to the lumen of the tube being at that part excessively fine, and its walls dense and inelastic so that its limits of expansion are soon reached, rupture is apt to take place with special frequency and at a particularly early stage of gestation in cases where the ovum is arrested in the straight portion of the tube just external to the uterus.[4]

Another factor in the etiology of intra-peritoneal hæmorrhage, a factor which has not until the last few years been fully appreciated, is to be found in certain accidental changes which are apt to occur in the ovum itself. The ovum in tubal gestation is specially prone to become the seat of hæmorrhage and to have its bulk enlarged thereby and its vitality destroyed. Sometimes the result is the formation of something so like the well-known carneous mole of uterine pregnancy that it may be appropriately termed a tubal mole. At other times the amniotic cavity is so much compressed by the hæmorrhagic effusion between the membranes that it is flattened and practically obliterated, the embryo being destroyed, and the ovum, whilst retaining its shape and often retaining its attachment, becoming a mere mass of clot and débris. This is, in my experience, a much more frequent result than the formation of a typical mole with its distorted or blighted embryo, its distinct amniotic cavity, and its little rounded bosses of blood clot projecting beneath its lining membrane. Not infrequently the covering of the ovum gives way and the tube becomes filled with clot and débris, all trace of ovum being lost. This constitutes one of the varieties of hæmatosalpinx. The sudden increase in the bulk of the ovum

[3] It was because in this last variety the gestation could not, with strict accuracy, be said to be extra-uterine that Robert Barnes proposed to substitute the term "ectopic" so as to embrace every instance of gestation situated elsewhere than in the uterine cavity—its normal seat.

[4] Surprise is often expressed at the great volume of blood that is often poured out into the abdominal cavity as the result of rupture. The explanation seems to be (1) that the mouths of the tubal vessels from which the blood flows into the intervillous spaces are not, as in the uterus, surrounded by uninjured muscular tissue, ready to contract and in contracting to close them; and (2) that the peritoneal cavity is a practically unlimited space. The restraining effect of a limited space is shown in the more moderate extent of the effusion in those cases in which the blood escapes into the tissues of the broad ligament instead of into the peritoneal cavity.

due to this hæmorrhage is very often a factor in the bringing about of rupture. But hæmorrhage into the ovum—apoplexy of the ovum, as it is called—does not always result in the production of rupture. It does not even do so in the majority of cases. The more usual result is a trickling of blood from the abdominal end of the Fallopian tube. Now such a trickling exactly fulfils the conditions necessary to the formation of a hæmatocele. The blood flows so slowly and in such moderate amount that it has time to collect in the pelvis and to become encysted. Of course, there are exceptional cases in which, even although there be no rupture, the blood flows fast and furiously, and in these exceptional cases a diffuse intra-peritoneal hæmorrhage is the result, but the ordinary result of bleeding from the open fimbriated end of a pregnant Fallopian tube is the formation of a hæmatocele. The capsule of a typical pelvic hæmatocele is formed partly by the peritoneal surfaces of the various surrounding parts (the broad ligament, the uterus, the ovary, the appendages of the opposite side, the intestines, the omentum and the walls and floor of the pelvis) and partly by an adventitious cyst wall. This latter bridges over any gaps that there may be between the various structures above named. Sometimes the whole hæmatocele is surrounded by such a cyst wall, the cyst wall in that case intervening between the contents of the hæmatocele and the visceral and parietal peritoneum, hemming it in and, if not too fragile, enabling the hæmatocele to be enucleated entire. The nature of this cyst wall was for a long time the object of much conjecture. It is smooth on its outer surface (where non-adherent), has a greyish or yellowish-brown colour, and is easily disintegrated. It consists of a delicate connective-tissue basis upon which successive layers of fibrin have been deposited from within. The layers of fibrin gradually deposited upon it are derived from the contents of the hæmatocele. The wall thus constituted tends to become firmer and harder day by day, and it was this solidifying and gradual hardening of the periphery that led to the old supposition that the hæmatocele, soft and elastic, if not indeed actually fluid at first, coagulates *en masse* and gradually hardens until it becomes for all practical purposes a solid tumour. As a matter of fact, the inner and main portion of the hæmatocele almost invariably remains either in a fluid condition or in the condition of soft clot. Much has been written about the various shapes that different hæmatoceles assume, but these shapes are so largely, so almost entirely, dependent on the character of the boundaries of the space into which the blood trickles that the question is not an important one except to this extent, that we must not expect to find hæmatoceles all alike or even to find the majority of them conforming in shape or size to one particular pattern.

The abdominal end of the tube is differently affected according to whether the ovum has lodged in the inner or outer part of the tube. When the isthmus of the tube—i.e., the inner straight portion—is the seat of the gestation the fimbriated mouth of the tube is sufficiently far from the scene of activity to remain, as a rule, unaffected. But in the much more common event of the gestation occurring in the outer portion of the tube the abdominal ostium remains open until from the sixth to the eighth week and sometimes becomes abnormally expanded. After that time it usually becomes closed, or nearly closed, by adhesions, provided the gestation has continued to that date without interruption. It is during those earlier weeks, when the abdominal ostium is still patulous, that a hæmatocele is most apt to be formed. For it is during the first two months of gestation that hæmorrhage within and around the ovum is most liable to occur, and the abdominal ostium remaining patent the blood extravasated around the ovum usually finds vent in that direction. But owing to the changes that I have described in the tube wall rupture may take place, and does not infrequently take place, while the abdominal ostium is still open and not a few cases have been recorded in which bleeding has occurred both from rupture of the tube wall and from the mouth of the tube. It will also be easily understood that under the pressure of recurrent hæmorrhages or from any undue strain the sac of a hæmatocele may give way and bleeding may take place into the general peritoneal cavity. In other words, a case of encysted intra-peritoneal hæmorrhage may suddenly become converted into the more dangerous diffuse form. This should be borne in mind during the bimanual examination of such cases for diagnostic purposes, especially when such an examination is conducted under anæsthesia. I have seen several cases in which this accident has happened and in which there was no reasonable doubt as to its having been caused by diagnostic manipulation. I have already, when speaking of diagnosis, called attention to the risk of rupturing the hæmatocele when forcible attempts are made to raise it out of the pelvis under the mistaken impression that it is a retroverted pregnant uterus.

Time will not permit of my following at any length the fortunes either of a pelvic hæmatocele or of a diffuse but non-fatal intra-peritoneal hæmorrhage. The tendency in both cases is to gradual absorption of the extravasated blood and to the recovery of the patient. But there are pitfalls in the way, and of these the two most important are the liability to fresh hæmorrhages and the liability to bacterial infection of the blood already poured out. Whenever an apoplectic ovum is retained and adherent within the Fallopian tube a woman is exposed to the constant risk of recurrent hæmorrhages. Occasionally the ovum becomes separated from the tube wall and is expelled along with the stream of blood that issues from the open mouth. This is spoken of as a complete tubal abortion. An instance occurred in my own practice in which, on opening the little firm clot found just outside the mouth of the tube, an amniotic cavity was exposed and lying within it was a three-weeks' embryo. Of course, when the abortion is complete and the ovum with its envelope of blood clot has been separated and discharged from the tube the hæmorrhage from the tube ceases. With regard to the second source of danger of which I spoke I may mention that within the last two years three cases of hæmatocele in which I had advised non-interference developed symptoms pointing to septic absorption and in each case the result of the operation that was thus rendered necessary was to show that the effused blood had undergone more or less decomposition and acquired a distinctly fœtid odour.

It has been my aim in this lecture to present some of the results of my own clinical experience of intra-peritoneal hæmorrhage and to give some idea of the direction and of the results of recent work on the subject and especially of its bearing upon diagnosis. It would, I think, scarcely be an exaggeration to say that whereas the characteristic ambition of the surgeon is to attain perfection of treatment, the characteristic ambition of the physician is to attain perfection of diagnosis. The developments of gynæcology in a surgical direction have led many to doubt whether the time is not approaching when gynæcology should be regarded as a special branch of surgery rather than of medicine. The question is a large one and cannot, of course, be adequately discussed on this occasion. But one thing I should like to say, and it is this—namely, that if there is in British gynæcology any of that striving after perfection of diagnosis of which I have just spoken it is traceable, in my opinion, to the traditional association of gynæcology with medicine. The instinct of the surgeon—I say it in no spirit of disparagement—is, at any rate in gynæcological work, to be satisfied with just so much of a diagnosis as will enable him to decide upon a line of treatment. With the refinements of diagnosis he does not greatly concern himself. The physician, on the contrary, trained and accustomed to the patient solving of difficult diagnostic problems, is not content with what I may call a mere utilitarian diagnosis. He wants to find out all that possibly can be found out, just as he does in the chest and other regions that are his own undisputed territory. In other words, he recognises that in scientific medicine the first essential is accuracy of diagnosis, and that until an accurate diagnosis has been made all treatment must be haphazard and unscientific. Those have been the best clinical physicians who have held this opinion and have systematically acted upon it, availing themselves of every opportunity, whether in the post-mortem room or the operating theatre, of ascertaining how far their diagnosis is borne out by facts. If gynæcology is to advance in a scientific direction this is the spirit, it seems to me, in which its work must be carried on. Hence I should view any step towards the severance of gynæcology from medicine with very great misgiving. That gynæcology is becoming more and more surgical is very true. It is inevitable that it should be so. But that is all the more reason why medicine should still keep a hold upon it, to exercise a wholesome restraint upon its surgical enthusiasm, and to continue to inspire it with that reverence for accuracy of diagnosis which otherwise it might be apt to lose.

I desire, Mr. President, to thank you very sincerely for the honour you have done me in asking me to deliver this lecture. It is, I believe, the first time since the Bradshaw Lecture was established 21 years ago that the honour of delivering it has fallen to an obstetric physician. I trust that I may interpret this mark of your favour as an indication that this College has at present no intention of disowning either obstetrics or gynæcology, or of removing them from an influence which I for one believe to have been extremely beneficial.

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ROYAL INSTITUTION.—A general monthly meeting of the members of the Royal Institution was held on Nov. 3rd, Sir James Crichton Browne, Treasurer and Vice-President, being in the chair. The special thanks of the members were returned to Sir Andrew Noble, Bart., K.C.B., F.R.S., for his donation of £150, and to Dr. Ludwig Mond, F.R.S., for his donation of £200 to the fund for the promotion of experimental research at low temperatures.

Clinical Remarks:

ROUND ABOUT CONSTIPATION.

An Address delivered before the Bradford Medico-Chirurgical Society on Oct. 15th, 1902.

BY JAMES F. GOODHART, M.D., LL.D. ABERD., F.R.C.P. LOND.,

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GENTLEMEN,—Constipation! What an uninteresting and commonplace subject, I hear someone say. Commonplace it is indeed, and for that very reason I have chosen it for my address to-day. Come, then, and let us reason together about it and we shall soon see that, concerned as it is with the whole physiology of unstriped muscular fibre, there are opened up a number of points that are both interesting and practical. And let us first take the matter of stricture of the muscular tubes, œsophagus, stomach, and intestine, as illustrated by clinical experience, for I think one or two points are not always fully appreciated and for which cause it has often happened that stricture of the œsophagus has been overlooked or mistaken. Now you well *know*, but I beg you to *remember*, that the muscular action of all these tubes is vermicular—that is, short lengths only are in action at the same time. From this it follows that no pressure from the outside is likely to cause obstruction. I will not say that it never does, but as a rule it does not. Even a sharp kink will not do so, nor will an adhesion unless there be something special about it. I can understand if several coils of bowel become matted together that their movements may become impeded and associated with pain and obstruction, but a mere adhesion such as seems often to be accepted as a sufficient explanation of obstruction of the pylorus or intestine I have little belief in, because you rarely, I think, find such localised adhesions in the post-mortem room where there has been any evidence of their presence during the life of the patient. Even an annular stricture of these tubes need not produce obstruction, provided that it is strictly annular. And I can point this moral, for I have several times had a case of stricture of the œsophagus presented to me as, say, an aneurysm, or some tumour pressing on the outside of the œsophagus, but such conditions do not cause obstruction. The musculature of the gastro-intestinal tract has an immense power of evading all such outlying impediments as this, because it is difficult to paralyse efficiently these short lengths of muscle. In all my experience I can recollect only one case of aneurysm of the thoracic aorta in which the patient died from emaciation like a case of cancer of the œsophagus—as such indeed it was diagnosed. I remember no case of mediastinal tumour, as such, in which the patient died from starvation. Obstruction is almost entirely confined to growths involving the muscular walls of the tube itself, and, of course, *par excellence* to such as invade the canal in an annular fashion, and that is essentially in such as originate in the canal itself. And surely a moment's thought explains this perfectly. As soon as the musculature of the canal is infiltrated all round—say, for an inch or so—you have an absolute severance of the continuity of the muscular action; it comes to an end above the stricture; and, at any rate until the muscular coat has become greatly hypertrophied, there is no power in the vermicular process to overcome the barrier. And thus it is that symptoms of obstruction in the gullet, even when of the slightest, are of such ominous import. There is practically nothing else except cancer of the tube to cause the symptoms. Many as are the cases of œsophageal obstruction that I have seen four at the outside would be the number of times when my rule has failed me, and I have certainly often made the diagnosis when as yet no one had any clear idea as to what was the matter. I have often had cases before me where one has endeavoured to believe that the diagnosis could not be correct and may be even a bougie has been passed and no stricture has been found. Sometimes, too, even the lapse of time would seem to cast doubt upon the opinion, but I have generally found that in all these cases the opinion has been ultimately confirmed even

when, as in one most unusual case, life was prolonged for some three years and I was for a time forced to doubt the correctness of my own opinion.

But this is not necessarily the case if the constriction be an annular one, or what approaches the same thing, a kink, because here the stricture is as if a string had been tied round the tube and a mere ring of this sort is, I suppose, pulled up by the healthy fibres above it and the circular muscle is then capable of worming the material over a ridge of this kind and through the narrowing and so preventing any real obstruction. Apply these suggestions also to the stomach and intestine and surely very practical lessons in the matter of treatment come from it. For example, take the stomach; one hears talk nowadays of fibrous stricture of the pylorus as if it were a very common occurrence. Years ago, when helping the late Dr. Habershon to re-edit his book on diseases of the abdomen, in which that disease is described, I came to the conclusion that it is one of the rarest possible, and after making several thousand post-mortem examinations I am not sure that I ever saw a case. So much so that one may still say that a simple stricture of the pylorus hardly exists. And I am quite confident that those who think otherwise and who ascribe so many cases of dilatation to its existence have never, as I have done, opened stomachs in the post-mortem room day after day and put their finger through the pyloric ring. Had they done so they would know that the pylorus is always more or less of a stricture; it is necessary to force your finger through an aperture generally not bigger than a large catheter, and I have always ventured to contend that the only function of the pylorus is to a t as a stricture. I have the greatest doubt about the gentlemen-dinner-is-served action that is supposed to go on in the pylorus and the os uteri. I would much rather believe, as much more consonant with probability, that these habitually closed doors only open in response to compulsion behind them, and this compulsion is the muscular force behind them, combined with whatever dilating force there may be in the amnion on the one hand and the fluid propelled onwards on the other. Dilatation of the stomach due to simple stricture of the pylorus is almost a figment of the brain. I have not the smallest doubt that if you could pass your finger into the pylorus in many, possibly in all, cases of splashing stomach you would find it shut and a hasty conclusion might say, "Narrow orifice and dilated cavity behind it," but such is not the sequence of events and it is not the pathology of these cases of dilated stomach. A strictured aperture slowly but surely leads to hypertrophy of the muscle behind it, and then to painful peristalsis in the effort to overcome the obstruction, and these signs are visible or palpable and can be appreciated. I do not think that visible peristalsis in the stomach *always* means obstruction at the pylorus. There is evidence, indeed, that occasionally the muscular hypertrophy is a consequence of the dilatation, but in the majority of cases I have no doubt that it is otherwise and that visible peristalsis does mean obstruction.

The point is this: When stomach symptoms and so-called dilatation are unassociated with evident labour the conditions are paralytic and not obstructive; the treatment is one of careful dieting and tonics, and operative measures are only requisite in a small proportion of long-standing cases. I will even go farther and say that even washing out the stomach in many of these cases is distinctly harmful. I do not mean to say that to empty the stomach once in a way is likely to do harm—except that if not necessary it is a rude intrusion upon the comfort of the patient, and when there are frequent vomiting and any evidence of decomposition of the contents of the stomach, and *a fortiori* any evidence of muscular labour of the organ, it is a most useful and necessary procedure; but in the young, with no sickness and with no more than the discomfort attending gastric paresis, or as some say "gastric catarrh," to give these persons directions to wash out their stomachs more or less frequently is to give the worst possible advice, for it tends to convert the patient into a chronic dyspeptic. I am afraid that some of these people are anyhow of the "degenerates" they are people of very feeble stamina, but the treatment that they require and which does them most good is a tonic one with rest and freedom from anxiety. Nor am I any more enamoured of another latter-day explanation of such cases which I have already alluded to—viz., that the obstruction is due to adhesions. I would again appeal to my post-mortem experience, and say that adhesions in the region of the stomach to be of any importance are quite rare, and I am more than sceptical about the pathology and treatment of such cases where they have been explained by adhesions and remedied by operation. As I have asserted previously, an adhesion here or there if it exists will make little difference to the vermicular action, nor do kinks, if such things occur in the stomach or its continuation. The stomach consists of a *digesting organ*, which is essentially the two-thirds forward from the cardia, and an expulsive organ which occupies the pyloric third; and it is not that the pylorus becomes strictured, but that the muscular organ becomes feeble and fails in its work that is the cause of the dilatation of the cavity.

But I have something further to say about this dilatation of the stomach by way of caution, for it does not seem to me to be sufficiently well recognised that a baggy stomach is so exceedingly common as to be a natural condition or at any rate that it gives rise to no symptoms in many a case where it is present. As I have often said, we do not allow nearly enough margin of variation to what may yet be considered a healthy state of the viscera. Now the experience of men who see out-patients and examine all and sundry that come to them year in and year out for many hours each day is one of great value as regards the adequacy or otherwise of physical signs as indications of disease. For example, one comes to recognise how much bronchial breathing there may exist in the lung without there being any disease; how little value can be put upon mere displacement of the cardiac impulse as evidence of dilatation of the left ventricle; how exceedingly common it is to find palpable and moveable kidneys the existence of which is quite unaccompanied by evil of any kind. And to come to the special organ involved it is so common to find a large apron-like stomach occupying more or less of the anterior surface of the abdomen with succussion when no food has been taken for four or even five hours—the so-called proptosed stomach—without any symptoms, that it is, taken by itself, of really no value as an indication of disease. The condition is, I take it, within the range of health.

But now to pass to the bowel. Constipation also concerns itself essentially with the physiology of the intestinal muscle and there are several points already mentioned that in this part of the intestine receive especial emphasis. The natural intestinal action or peristalsis is invisible and for the most part impalpable, with this exception, that in very thin women who have borne children it is visible through the extremely thin abdominal walls and it may be also just palpable in similar circumstances. On the other hand, when the muscle is irritated by any obstruction ahead, then it acts with so much vigour that it rises into such hard lumps or masses that for a moment it may appear to the examiner that he has to deal with solid tumours in the abdomen, and this idea is only dispelled by the gradual subsidence of the tumour under the continuance of the examination and its reappearance in some adjacent parts.

But what constitutes obstruction? There are many people who live through their adult life in the belief that if the bowels do not act for two or three days they will get a block—that is, there will come obstruction of the bowels. So many of us act, too, as if we believe it that we encourage the same doctrine. But it is not the fact. I can say positively that in 35 years of work I have seen only one case of this kind and in consequence I made a wrong diagnosis. It was the case of a young man who was under the care of Mr. Reynolds Ray. I cannot now remember the finer details of the case, but the patient had been suffering from symptoms of partial obstruction for some days before I saw him. When examining him I was struck by a markedly visible, and still more palpable, peristalsis. This betokened, to my mind, without a doubt, a stricture in the lower part of the large intestine of some standing. But this view was quite in opposition to the patient's history. The case occurred in the early days of the commencement of electric lighting and our patient was in that way of business and very busy, his partner being away ill. He maintained that he had been quite well and regular in his bowels until he had been so pressed by work that he had neglected himself, for he had literally not had time to get a daily evacuation of his bowels. I did not think this explanation sufficient and on the probability of a stricture existing the late Mr. Arthur Durham was called in to aid us with his counsel. But by the time we met, by the aid of repeated enemata, things had given evidence of righting themselves;

there had been a little movement of the bowels although the visible peristalsis still continued. The enemata were repeated and small doses of calomel and opium were given by the mouth and in due time there was unloaded from his colon a large quantity of retained stuff, chiefly composed of fig seeds, and it was then found that he had been very fond of figs. This is the only case I believe that I have ever seen where a visible peristalsis was present from an obstruction entirely due to a retention of fæcal material within the intestinal canal and was not due to any chronic stricture. I have once, and once only, seen a case which some might say was of a similar kind, and which all books describe and therefore it might be imagined was of common occurrence, and that is a case of enterolith. But these cases differ and do so in an important way. In the case of enteroliths, or intestinal concretions, there is no obstruction; the presence of the mass worries the mucous membrane and a quantity of mucus and watery material is passed and the subject describes himself as suffering from diarrhœa; and I would couple with this fact another I think I have observed—viz., that cases of cancer of the lower bowel which are associated with a watery diarrhœa are far less likely to be associated with obstruction; an operation for the relief of which is less likely to be necessary and the life of the patient is likely to be much longer. I have cases in memory so situated of several years' duration. This patient with the enterolith did not die from obstruction, he died from the operation for its removal, which the surgeon had repeatedly declined to do but which was ultimately done because of the importunity of the man.

Well, then, let me illustrate by a case the assertion that I have made that obstruction is mostly due to the implication of such a length of bowel as annihilates the peristalsis over a sufficient space as to sever the continuity of the parts above and below. I need not show that in the majority of instances this condition is fulfilled, for, as all know, in many cases of cancer of the sigmoid, the disease, extending as it does mostly over two inches or so, produces a tract in which peristalsis is impossible, but I may say that in the few where the stricture is a strictly annular one it is sometimes very hard to be sure that there is any stricture at all, which is equivalent to saying that the continuity of the intestinal peristalsis is in some measure or other preserved. And perhaps I may here say, although it is an addendum not in the direct line at the present moment, that if the peristalsis above be brought to a stop at any particular spot the innervation below seems to become put out of its stride, and thus we find the condition so often noted by other observers that has received the name of "ballooning"—the ballooning of the rectum, that is supposed to indicate a stricture above the balloon. It is found in a variety of circumstances, so that it is not of much value as a means of diagnosis, but it may help sometimes, and anyhow it is a condition which may be of physiological interest. But it is more to the point to show that a stricture, provided that it be annular, and by that I understand one that would seem to have been produced by a string encircling the bowel, does not necessarily produce obstruction. The case is as follows.

A lady, aged about 40 years, had had from time to time in the course of some years attacks of severe abdominal colic. Failing their cure by medicine the ovaries were removed and for a time the pains were better, then they recurred, and now the gall-bladder was opened—whether or not some gall-stones were removed I will not now be sure. Again for a space the pains subsided and then on their cropping up again I came upon the scene. And on going over the abdomen I found as I thought some thickening in the seat of the old scar over the gall-bladder and as the temperature was a little raised I suggested that there was some pus underneath the abdominal wound and therefore another exploration took place, with the result of letting out a little pus, and once more she was well for nearly a year, I think. But, alas, again she was seized with her old pains and I saw her in the attack. She was vomiting brown stuff, the intestinal nature of which could not be mistaken. The abdomen was again opened and she died not many hours afterwards. But what was found? A tight annular stricture of the small intestine and I cannot doubt that this had existed for a long time and had caused all the trouble. Yet you will remark that there was nothing that deserved the name of chronic obstruction, for although the bowels were constipated there had been many months in which she was practically well and considered that nothing ailed her. She had, in fact, got a second pylorus lower down in the small intestine, which, no doubt, did occasionally cause a temporary obstruction and colic but which, nevertheless, allowed her to go on for several years. The case well illustrates the difficulties in the diagnosis of abdominal cases, for it allowed of such various interpretations as ovarian disease with its consequent operation, gall-stones with its cholecystotomy, a third operation for the abscess, which, although it was necessary, nevertheless put one off the right scent for curing her; and so after all this misery her life was sacrificed without a correct diagnosis having been made.

I have already alluded to kinks, but let me say further that there are some who are very fond of making a kink an explanation of intestinal obstruction. I have heard of a kinked condition of the stomach being considered sufficient explanation of a dilatation of that organ. I believe that for the stomach the idea is purely hypothetical and imaginary. For the intestine, no doubt many of you have occasionally seen kinks, but they must be rare. And I believe that intestinal obstruction so caused is still rarer, because the peristalsis is able to worm the intestinal contents past any fold or bend of this kind. And when an operation has been done for intestinal obstruction and only a kink has been found at the operation, specially a kink of the colon, which I have only once seen and that was at the cæcum, *faute de mieux*, it may be satisfactory to the operator but it is very unsatisfactory to me, for I never lose the suspicion that a mistake in the diagnosis has been made and that at some time or other it will come home to roost.

Now these remarks on stricture of the gastro-intestinal canal lead on very conveniently to the subject of intestinal constipation. Because to a very large class of humanity the only terror of constipation is the fear of a block, and in what I have already said I have endeavoured to drive home this very important truth: that a mere intestinal accumulation never produces intestinal obstruction. If that idea could be knocked into the human lay mind you would do a very large amount of good and very perceptibly increase the sum of human happiness. I have known—I daresay you have too—the happiness of a whole household to hang daily on the regularity of an old man's bowels. The gates of Cloacina open, the heavens smile and all goes smooth. "Master's bowels have not acted to-day," from the lips of the faithful butler and the house is shrouded in gloom. Well, mere retention of the intestinal contents never causes obstruction, for the exception that I have given only proves the rule, it is so rare. I think that it more often causes ulceration in the colon but that is, I think, rare and a matter to be alluded to directly. Then how largely is the action of the intestinal muscle a question of nerves or adequate nervous vigour? I do not know what proportion, but certainly a large one is due to failure of this vigour. You know the melancholic whose attack is always accompanied with constipation. The facts of hundreds of these cases prove conclusively that it is not a case of constipation first and depression secondarily, but the two symptoms are part and parcel of the same nervous exhaustion. What more instructive tale could be told in this respect of the influence of the nervous system on the peristaltic action of the bowel than this? A man of the most regular habits was in a bad railway accident and he was buried in a complete wreck of carriages for 35 minutes. He was not broken but his nervous system was so shattered that for days his bowels refused to act although he took all sorts of things to make them do so. But not only did they refuse to act, but, more instructive still the material changed into scybala, and as the man said to me, "Oh, the agony of passing what seemed to be a cocoanut, but which turned out to be a walnut or less." Excitement, as is well known, tends to relaxation of the bowels, but there are those with, perhaps, an excess of vigorous brain work—those who are always at it, so to speak—who suffer from constipation. And I suspect that there are many who suffer from this cause in whom there is not sufficient distribution of their energy and who using a draught consumption by way of intellect have no supplies left for their intestine. But there is another form of nervous constipation—viz., those who are always taking thought for the morrow in this respect. The stomach will not digest nor the intestine act if one is always directing one's thoughts to the necessity of their so doing. A good servant cannot or will not work if always under criticism. If you want your functions to act regularly do not be anxious that they should do so. Yet another nervous influence may be mentioned and that is the question of habit. How much is the intestine a creature of habit,

so that with many if their meals be delayed even by an hour the output is delayed to the same extent. And, perhaps, in part this explanation holds for that common class of cases where constipation fastens upon those who temporarily go for change of air; but not wholly so, for there can be no doubt that there is some subtle influence in climate that does tend to induce this condition in some places, just as in other places the tendency is in the other direction. A parallel condition is common in those people who can foretell the on-coming storm by the tendency to looseness that then affects them.

And when we speak of habit this very important point comes up for consideration—viz., the bowels were made for man, not man for his bowels. It was not one of the necessary conditions of life under which we were launched into existence that such and such clearances should be effected once in each 24 hours. These things are mere matters of convenience and not primarily of health. So that one is not surprised to find that custom varies a good deal in individuals and it is very important to remember this in dealing with the complaint. For instance, a friend tells me of an old gentleman, aged 77 years, who certainly for the last 19 years has taken a pill every alternate Saturday night, which acts; and he never by any chance has an action of the bowels in between. I was once told by a lady that her bowels acted regularly, but when I came to details the regularity was once every eight days, and she looked to be the picture of health. Another case is quite common where an old man has an action every four days, and perhaps this is the most instructive point about his case, that if they act oftener he is not well. And it is interesting because there are many others who are in like case if we look out for them; there are cases of melancholia and depression that are better—that is, less depressed—when the bowels are constipated than when they are acting.

Well, then, I have often been struck with the fact that of all those who suffer from constipation how few there are who give any *sign* of retention. If you examine the abdomen of such, instead of finding it rotund, as one might expect, it is retracted and apparently empty. I am by no means sure what this means, for these retracted abdomens seem to me to be of distinct physiological interest, but two possible reasons suggest themselves either of which may be, and no doubt is, true upon occasion: (1) the common-sense one, that some of these people, afraid of the consequences, eat very little so as to delay the evil day of blockage they spend so much time in anticipating; and (2) that the intestines of some are what I call greedy feeders. As regards the first of these heads there are numbers and numbers of women to whom it applies. It was once said in the *Spectator* that the only fault of the Englishwoman was that she was so seldom a glutton. I incline to think one should go further and say that the majority of Englishwomen do not eat enough. The young ones starve because they are afraid of getting fat and the remainder are mothers of households; they have all the cares of the house upon them, they always know what is coming for dinner, or they look after the children and when they come to their own meal they have no appetite. And I am sure that numbers of women who come to be treated for constipation are putting nothing out because they are taking so little in. I think that the men generally eat too much. And this state of the abdomen may well teach us that although we are more constantly engaged with distension of the bowel and dilatation and inertia of the muscular wall we certainly upon occasion have also to consider the opposite condition—a state of spasm. I think I have several times seen this condition, sometimes the cause of pain, but it has been more often the cause of unhappiness and dread to the patient in determining the size and shape of the evacuations. And here let me say that people often come to the medical man with the tale that they pass peculiar-shaped stools, mostly tape-like or small, and from it they draw the hasty but terrifying conclusion that there is narrowing of the gut going on. But I do not think it is a symptom of any value, although to the learned it may possibly give a suggestion for the examination of the rectum, on the chance of there being a narrowing low down from piles or otherwise.

But a word about this greedy feeding as a cause of constipation. Have you ever raised this question in your minds before you have prescribed the inevitable pill? It has a very potent bearing upon the question of pill-giving. I believe that very few of us hold the colon in the respect that is due to it. I would not mind arguing the point with anyone that it is the most important organ in the body, whereas from the way many of us treat it it is clear that it is largely regarded as the mere main drain into which the refuse runs and that the sooner it is all cleared out the better. You have only to think about it and you will soon arrive at more wholesome conclusions. There is no more striking fact in physiology than this, that in the whole length of the small intestine you never see any *solid* material, but directly the ileo-cæcal valve is passed the colon becomes filled with lumps. This fact shows conclusively that the absorption effected by the colon is enormous. I sometimes wonder whether the small intestine does much more than digest and prepare for the absorption that is to go on in the large bowel. At any rate, I know that liquids pass along the small bowel with great rapidity; I have given a patient porter to drink and it has been coming out of a fistula in the lower part of the ileum while I stood and watched.

Next I would call attention to the different relations that exist between the contents of the canal and the mucous membrane as seen in the small and large intestine. In the small intestine you have a milky fluid lying loose in the canal which is washed away with ease and leaves the mucous surface quite clean. Try the same experiment with the colon and there is the greatest difficulty in cleaning the mucous surface: the material clings to it with tenacity and on playing a strong stream of water over it peels off the surface as if the intestinal suckers ran into its very substance, as, in fact, no doubt they do. Another observation tells the same tale. No doubt you have noticed in making digital examinations of the rectum that the mucous membrane is sometimes coated with a thin layer of adherent food material. I have no doubt in my own mind, although I cannot prove it, that this absorbing organ is much more active in some than in others and that when greedy the colon by rejecting so little is a cause of so-called constipation. I have equally no doubt, although it is in opposition to an idea in vogue among us at the present time, that much good nutriment is thus cast out into the draught even in the daily evacuations, while the chronic pill taker who keeps his colon always on the run is a most wasteful man. One other point in favour of the absorbing power of the colon, and it is this—that there are few cases of more rapid emaciation than some of the very acute cases of ulcerative colitis or dysentery. I might also adduce evidence on the other hand, although it is not nearly so constant, that in those cases where the colon secretes an abnormal quantity of mucus such subjects are usually thin, ill-nourished beings, and it is at least reasonable that some of this meagreness may be due to the impediment to absorption that is offered by the mucus that coats the surface of the colon. Eustace Smith has always contended for this in children who are the subjects of what he has called "mucous disease." And by-the-bye, what an interesting disease is this mucous colitis so called and how little is it understood. I have known it treated in all sorts of heroic ways and occasionally even colotomy has been carried out. I take it that these must have been most exceptional cases, for, common as the disease is and large as is one's experience of it, I have never seen a case where I should have dreamed of such a thing. For although a very troublesome complaint it is not a vital, life-sapping one; it is always associated with a dilapidated nervous system; it is not a colitis at all, but a colitic dysmenorrhœa, if I may call it so, analogous to the painful decidual conditions of the womb, although, of course, not paroxysmal like them. But it is a condition that has a certain coarse periodicity about it, for it is a disease that comes and goes or is better and worse. To get into the idea that in these plaintive subjects such a remedy as colotomy is one to be even considered would, in my opinion, be very bad practice. These are emphatically cases where you must treat the patient and not the disease so much, for the patient is the disease.

There are still one or two other points of some little practical import that concern themselves with the intestinal muscle that are worth mention. The relation of flatulence to pain is one of these. Two cases at once occur to my mind that will illustrate my point. One was that of a man who had attacks of what was supposed to be flatulent colic and his disease was thought to be a mere concern of the colon. But when going into the case it was found that he had passed blood in his urine on several occasions and there could be little doubt that he had a calculus in his kidney. Here is another somewhat similar case, that of a man who had bad attacks of pain in the right side, which were always accompanied by excessive flatulent distension of the

abdomen. As soon, so it was said, as the flatulence was relieved the pain went. Really it was that as soon as the pain went the flatulence subsided and the pain was due to an obstruction of the ureter at the entrance to the bladder. How often it is that the cart is put before the horse in this fashion in all sorts of diseases. Now, I suppose that we should all be agreed that flatulence is a cause of pain. But the question that I should like to raise is this: Does flatulent distension ever cause severe pain; and, still further, does it ever cause sickness? That is a question one may well ask of a body of men engaged in general practice. I, on my part, seeing only specially pronounced pains and aches, have not a complete knowledge of the subject, but my experience would lead me to doubt whether flatulence pure and simple does lead to severe pain or ever causes sickness. And I would certainly insist that a bad flatulent colic always indicates the necessity of a careful investigation of the history and a thorough examination of the abdomen. Many a case of gall-stone presents itself as flatulence and many a case of angina pectoris in like manner. And as regards the intestine, why should it be *primâ facie* unlikely that flatulence should cause severe pain? I answer this question by what seems to me an adequate reason—that flatulence occurs when the muscle is in a state of inertia, whereas pain indicates labour and spasm. And in our efforts to aid nature and to cure disease it may be as well to bear in mind what enormous power resides in the muscular coat of the bowel when once it decides to take the fence. This is true of it even in the healthy state, as everyone knows, unless it be he who has spoiled the keen edge of his nervous mechanism by be-pilling himself with irritating drugs. Much more does it show its power, of course, when it is thickened by the hypertrophy begotten of slowly increasing obstruction. I have already alluded to a striking instance of this in the appearance of hard, tumour-like masses in the abdomen when the hypertrophied muscle is contracting—masses so hard that I defy anyone to distinguish them from a solid growth until the hand has detected their evanescent nature. And I was once a witness to another exhibition of this power which I am not likely to forget. I was present at an inguinal colotomy for chronic obstruction. It was all done very nicely and the intestine was well stitched to the abdominal wall in readiness for the anticipated opening in due time when suddenly one heard a loud—almost a snap; an intestinal pain had come on and all the stitches tore away in a moment and the bowel was free in the abdominal cavity again. Facts like this seem to me to have a material bearing upon the giving of pills, for it surely seems that a tube so sensitive to interference with its onward rhythmical movement can hardly, when quiescent to all ordinary solicitation, be otherwise than sick and in need of other means of treatment than baiting it by intestinal irritants.

One word more upon the action of the muscle when hypertrophied. I have already alluded to the diagnostic value of the bowel in labour but there is another little point also of value. When the bowel is strictured low down and the narrowing is great and the intestine is no longer able to relieve itself there come, as we know, great tidal waves of action more or less frequently associated with pain, and with what I wish more especially to mention, a noisy, rushing, scuttling of fluid. What happens is evidently this, that the ordinary more or less solid contents of the large bowel become so churned up and mixed with a watery mucus, the result, one may suspect, of the irritation of the surface, that its channel becomes full of sludge. So that when in any questionable case of intestinal obstruction scybala are passed or lie in the rectum one may with fair confidence assume that no obstruction is present. I have known this rule to be of service on several occasions. And as regards dealing with these cases we know that there is a danger, if they be allowed to go on too long, of ulceration of the colon and perforation, particularly of the cæcum, taking place. So long, however, as in any supposed case of obstruction there is no evident vermicular action of the bowel, so long it will, I think, usually be found that there is no pressing need for any operative measures for its relief; but as soon as the vermicular movements enter upon that pronounced action that gives its evidence to eye and hand then there *is* this danger of perforation and an operation should no longer be delayed.

Well, then, there are various suggestions for the treatment of constipation which these remarks lead up to. And the first might seem to be: After what you have suggested against aperients where, we wonder, do pills come in? So I will lose no time in saying that they undoubtedly do fill a necessary place in the scheme of treatment and I am not so rash as to come here this afternoon with any attempt to support a contrary doctrine. I am concerned incidentally, though, with the undiscerning habit of aperient-taking and I venture to question whether some at any rate of the advantages claimed for purges do not rest upon insufficient evidence. For example, a common one, the subject of a bilious attack or migraine takes a pill and obtains relief. The pill may be said to have cured the headache, but with equal probability it can be maintained that it has only relieved a symptom and not cured the disease. And this is no doubt the truth. For if that be the only treatment the common experience both of medical man and patient is surely this, that back comes the headache, and with an increasing frequency, until it is abundantly clear that the cure is no cure at all. I think opinion rather scoffs at the present day at the old idea of derivatives. But I think that reflection upon the vital processes tends on the contrary to make one a convinced believer in this action of remedies, and personally I go so far as to believe that the future eradication of cancer, if it ever can be eradicated, will be, not by discovering its microbe, but by the better appreciation, and a greater power in the modification, of that correlation of forces and of functions that certainly exists but which we at present are unable to gauge in the slightest degree. Thus although it seems terrible to advocate the treatment of cancer in one part by the removal of quite another part of the body, the attempt to deal with some cases of cancer of the breast by the removal of the ovaries, and the administration of so profoundly modifying an influence as thyroid extract, excites my sympathetic interest as a tentative reconnaissance along a likely line for turning the defences of the enemy. So when anyone tells me that he can cure his headaches by a dose of calomel, and says that it is all stomach and only wants more care in diet and a good clear out, I say: "You have illustrated upon the *corpus vile* a widely acting and important physiological principle; you have robbed Peter to pay Paul, or, rather, you have so scourged your bowels that your head forgot its own affliction in its concern for the brutal treatment that had been meted out to its minister. You draw the nervous energy from the head to the stomach and intestine and thus the headache collapses." And this nervous effect of the local stimulation is a very subtle one, and therefore throws much difficulty in the way of certainty. I discuss it with some of my medical associates and I have had it said, "It is all very well for you to say that it is merely a nervous effect, but I know this, that if my habit is not one of the most absolute daily regularity I am a worm and no man"; and then the argument runs, "I become poisoned. Effete matters which should have passed out have become absorbed: my daily pill prevents this, and thus I keep in health." But I doubt whether the effect assumed is really accomplished, and I also doubt if the retained matters can be as harmful as the pill-taker so readily assumes. First, I believe that few people recognise the physical conditions with which pills have to cope. The idea seems to be that both with pills *a tergo* and douches *a fronte*, the colon is cleared of all effete matter and is left clean and virgin for the food that is to come. The observations already alluded to make it clear that this is a very incomplete statement of the case. The healthy mucous membrane is busy feeling and the food is clutched in its embraces. All that happens in most cases is that an exhilarated muscular action is called into play and the contents of the lower part are discharged. This is borne out by the fact with which you are all familiar—that a moderate aperient having been given and the relief resulting not being deemed adequate to the occasion a much stronger purge has been administered, and one has been surprised at the enormous quantity that has come away. We forget that the small bowel is always more or less empty and the colon always more or less full. I doubt if any but the most violent purges empty it completely. And I think that this casts considerable doubt upon another notion much in vogue—viz., that the daily output should be of a certain quantity. I take it that it was not for nothing that our rectal nerves were endowed with bluntness of sensation for quantity and with the keenest appreciation for quality. The rectum is a poor judge of quantity. Had it been otherwise much good material would be wastefully cast into the draught because of the discomfort which its presence would create as it passed into the final crucible in the sigmoid flexure.

Thus I hold that all self-scrutiny of our outgoings is prejudicial, because I am sure both in theory and in fact that the daily output from the rectum varies as the intestinal appetite is large or small, as well as from the other causes already mentioned, and the local nerves are quite indifferent to the question of amount. Of quality, on the other hand, they are rare surveyors, particularly when they have had a special education, and thus the chronic pill-taker reaps no satisfaction from even natural conditions; he only obtains it by the sense of effort that is evoked by the daily irritant. My idea, therefore, as regards aperients is that they are not harmless as many seem to imagine, that they are much too frequently resorted to and with far too little attempt at discrimination between cases, and that there is no widely spread recognition of the fact, notwithstanding that we are constantly administering nutrient enemata, that the colon is a great feeding organ worthy of respect and of gentle dealing.

And now just a word or two on the other head, a belief in which is so prevalent now and which is much mixed up with the treatment of constipation—viz., the auto-intoxication theory and its treatment by antiseptics. It is an idea that is as old as medicine itself that one of the first necessities of health is to keep the *primæ viæ* sweet and fluent. I am not prepared to traverse a doctrine so hallowed by the universal assent of age after age, and so long as it confines itself to the innocent activity of giving an occasional pill nature is, I am thankful to think, capable of withstanding such efforts of indiscreet doctoring, supposing that in some cases the judgment has been at fault and the economy did not really want the pill. But I think that the time has come to make a protest when we are becoming over-ridden by the minuteness and ingenuity with which this doctrine is now elaborated. I hear of nothing now but auto-infection and auto-intoxication, and creasote and beta-naphthol and salol and carbolic acid as antiseptics to our poor bowels. There was once a man of the labouring class seen wandering round the Museum of the College of Surgeons and his mute aspect of inquiry attracted the attention, I think, of the late Sir James Paget—at any rate, he it was who told me the tale—and on being asked what he wanted the man replied he wanted to see the woodcock "as had got no guts." He and a companion had got a bet on, his mate having bet him 1s. that the bird in question was not endowed with these very universally supplied parts of living bodies. And really one would almost think from the contumely that is heaped upon our uncomely colon, the evil that it is supposed to do us, and the bits, and large bits too, of which it is now ofttimes bereft by the surgeon, that happy would be the man who could, like the woodcock that existed in the imagination of the artisan, live without it. But seriously if one gives any thought to this question of antiseptics and the intestinal canal, is it not clear that it is a bit overdone? Why the great feature of our stomach and intestine is that they call nothing, or hardly anything, common or unclean, when they smile at venison and game and mity cheese and many another and questionable article. What God hath cleansed that call not thou common—not even the bacillus coli. It behoves one to be careful how one accuses of septicity so great a master in natural asepsis as is the stomach or intestine. You cannot make the colon distil eau de Cologne however much you may try. I am extremely sceptical as to the value of the doctrine that unhealthy conditions of the mouth are the cause of pernicious anæmia by a process of auto-intoxication. Auto-intoxication is by no means easy to produce or we should many of us live a much less durable course than is happily the case. Our tissues are accustomed to, and not stimulated by, their own products, and whether for good or evil they are not provoked to action thereby. Now a very striking instance of this is the fact—and I think it is a fact—that though our intestinal absorbents will take up any amount of raw meat juice (in other words, the blood of other animals) they will not reabsorb their own blood. Has it not struck you as strange that the subject of gastric or duodenal hæmorrhage will die with two or three pints of blood in the intestine very little of which at any rate has it been able to absorb? And this is not because death has occurred too speedily, for it may be four or five days after the occurrence of the bleeding—an ample time for the whole of it to have been taken up, and at a time, too, when vessels and lymphatics must have been hungry to an extreme degree. Our own juices are antipathetic, or not isotonic, to our own absorbents. They do not excite the appetite of our intestinal villi.

Now in these few desultory remarks round about constipation you must not consider that I have been attempting altogether to upset principles or even details of treatment the use of which has been proved by time and which are quite unassailable. I daresay I have quite mistaken my vocation, but my mission, as I conceive it, upon occasions like this, is to make a sort of retreat for you awhile, and there to stop myself and maybe some of you from gliding along the downhill deadly path of routine, not only in the matter of pills but in any treatment that you like to mention. Constipation is notoriously a good subject for such a purpose, for there can be no doubt that on many an occasion when we are called upon to treat it we run the patent pill man very closely by our want of appreciation of the intricacy of the subject and of any real attempt to discriminate between the patient and his malady.

Four Lectures
ON
THE NATURE, CAUSES, AND TREATMENT OF CARDIAC PAIN.

Delivered at the Medical Graduates' College and Polyclinic in London on June 16th, 23rd, and 30th and July 7th, 1902.

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LECTURE II.[1]

Delivered on June 23rd, 1902.

ON THE CLINICAL HISTORY OF CARDIAC PAIN.

GENTLEMEN,—The classification of the varieties of an affection which is denoted by a term that has but the significance of a symptom must of necessity be a classification of symptoms. The terms "true" and "false" convey little meaning and the degrees of severity or fatality denoted by such words as "gravior" and "mitior" are not much more enlightening, while the use of such general terms as "vaso-motor," "arterial," or even "coronary," is but the indication of dissatisfaction with the indefiniteness of the terminology of the disease usually employed. In view of these facts and after an inquiry into the physical basis of the affection it seems desirable that we should attempt a classification, however provisional and transient it may prove, which endeavours, in the light of facts still too few in number, to give a local habitation and a name to phenomena which we are not yet in a position to explain with scientific precision. With these reservations it appears to me that we are in the meantime justified in discriminating pathologically between the modes of cardiac anguish on the lines indicated in the following table:—

- **Cardiac anguish (angina pectoris).**
  - **I. With pain (Heberden's disease).**
    - 1. Musculo-spasmodic.
    - 2. Coronary.
      - Aneurysmal.
      - Occlusive.
    - 3. Aortic.
      - Aortitic.
      - Aneurysmal.
    - 4. Neuritic.
      - Intra-vascular.
      - Extra-vascular.
    - 5. Neuralgic.
      - Intrinsic.
      - Extrinsic.
    - 6. Endocardial (valvular).
      - Severe.
        - Aorto-coronary.
      - Mild.
        - Ventricular.
    - 7. Vaso-motor (? peripheral).
    - 8. Compound.
  - **II. Without pain (angina sine dolore).**
    - 1. Fear with syncopal signs.
    - 2. Fear without syncopal signs.
    - 3. Syncopal bradycardia.

[1] Lecture I. was published in THE LANCET of Nov. 1st, 1902, p. 1173

Musculo-spasmodic angina.—"Angina pectoris, as far as I have comprehended its nature," writes Heberden,[2] "seems to be related to distension (*ad distentionem*), but not to inflammation." He then goes into several reasons for coming to this conclusion and the last of these is that "it affects some after the first sleep, as is frequently the case in diseases from distension." The word I have literally translated distension is evidently meant to convey the idea of spasm—spasm like cramp in the leg after sleep. M. Huchard, who in his excellent work bends all his ingenuity towards proving that the sole cause of angina is really a more or less sudden anæmia of the cardiac muscle due to atheroma of, or imperfect circulation in, the coronary arteries, places Heberden's notion among the many exploded theories which he enumerates.[3] Professor Clifford Allbutt appears to agree with him on this point.[4] Professor Osler, however, does not so definitely dismiss Heberden's view as untenable. In his "Lectures on Angina Pectoris and Allied States" he writes: "Pain, the special feature of the angina attack, is explained by the cramp theory. The most intense suffering which can be experienced is associated with muscular contractions of the tubular structures, as in intestinal, biliary, and renal colic, and in the contractions of the uterus in parturition. And, observe, that this agonising pain is in parts not endowed, so far as we know, with very acute sensibility. Theoretically, there is much in favour of the idea that in the most powerful muscular organ of the body, irregular cramp-like contractions, even if localised, might be accompanied by painful sensations which could attain the maximum intensity present in an angina attack" (p. 120). He, however, perceives that this theory cannot account for "frequently recurring attacks."

My line of argument on the present occasion commits me to the support of no single theory of angina pectoris. I have already suggested that the frequently occurring attacks associated with calcareous arteries may be due to a neuro-vascular condition, the chief element in which may be an aneurysm which has not yet eroded through the muscular coat of the vessel and gained a position of greater freedom and one less influenced by passing variations of intra-vascular blood pressure. I have shown you direct evidence of this, as I take it, in the intra-vascular aneurysm already referred to. But circumstances alter cases and such alteration demands and denotes a difference in the mechanism of the production of pain. That a whole heart could be in a condition of tonic spasm and yet the pulse proceed more or less altered is not to be thought of. On the other hand, a rhythmically contracting organ—and we have seen that this rhythmicality is an inherent property of the heart, apart alike from blood-supply and innervation—may, as it seems to me, be affected by a cramp in limited areas which crushes in its tonic grip the sensory nerve endings of the organ and, if unrelieved, is calculated to induce by way of the pneumogastric nerve a profound and, it may be, fatal inhibition, the visible sign of which is the flaccid diastolic heart found post mortem in those who die in the agony. This behaviour on the part of the cardiac muscle, while probably favoured by an insufficient coronary circulation in some cases, might, as it seems to me, in view of the inherent rhythmicality of cardiac muscle, arise from physico-chemical changes in the muscle itself, apart from the *quantity* of its blood-supply. For such a fatal attack appears to be possible from over-exertion in cases in which the blood-supply to the organ is little interfered with, in which atheroma, either of the aorta or of the coronaries, is not in an advanced degree and in which muscle fibres are in many portions fairly free from degenerative changes. As an example of cases capable of bearing such an interpretation I may relate the following.

On Nov. 10th, 1901, I was hastily summoned to a gentleman whom I had met in society but whom I had never previously seen professionally. He was 63 years of age and had some months before returned from the far East, where he had spent many years of his life and where he had comparatively recently married a native by whom he had two children. He had suffered, I was told, a good deal from his liver while abroad and about two years before his return to England he had experienced what would seem to have been a severe syncopal seizure. He was, however, pronounced sound after this illness and in September of last year he consulted a well-known physician in London who likewise pronounced him organically sound, as I learned from the patient's diary, but stated that he was suffering from an excess of "uric acid" and prescribed exercise and an anti-lithatic dietary. He accordingly used chamber gymnastics and cycled. I learned from his partner in business that he was an energetic and excitable man. He was short, rather stout, and bald, and what remained of his hair was grey. He was alert and active-looking for his age, a good billiard player and most careful liver, dieting precisely as he had been instructed and taking probably more exercise than had been enjoined. He regarded himself as perfectly sound and from his business arrangements would appear to have entertained the expectation of a prolonged existence. The day before I saw him was Lord Mayor's Day and he went with his young son to the show, stood in one place for two hours, afterwards visited St. Paul's Cathedral, and carried his child up and down the stairs of the Underground Railway. He retired to rest apparently quite well and slept well during the night. At five o'clock in the morning he had a severe attack of pain in the chest which passed off and which after a time recurred. About 8 o'clock he sent for me. I saw him at 9 o'clock. He was quite comfortable when I reached him, but told me that the pain he had experienced was very severe, yet he did not seem unduly alarmed about it. Soon after I arrived he was seized with pain in the centre of his chest with radiation down his left arm to his hand. The attack was severe. He rolled round on his right side supporting himself on his elbow and closed his eyes with an expression of agony. His pulse was not quickened but during the pain it occasionally intermitted. Its palpability varied; it was at times larger and more easily felt and again smaller and less palpable. After the attack passed off the pulse was smaller and more rapid than during the persistence of pain. I gave him at once an ounce of brandy without water as it was the only stimulant available. The attack lasted about three minutes and then subsided and the patient declared himself to be free from pain. This complete subsidence of pain is a remarkable phenomenon in these cases and is probably due to the comparative insensibility of visceral sensory nerves except, as was remarked before, in circumstances of cumulative or excessive stimulation. The respiration was restrained during the agony but his breathing was not otherwise disturbed or difficult. After a time he had slight recurrences of pain and I gave him more brandy. These, too, passed off and he declared himself to feel better. Having prescribed trinitrin and enjoined his remaining strictly in bed, I left him for a short time apparently quite comfortable, to breakfast with a friend a few doors from the house of the patient. While at breakfast I was urgently summoned to him again and arrived without loss of time. I was informed that he had been feeling fairly comfortable and had asked for some tea and toast but again experienced a recurrence of pain and immediately thereafter began to breathe stertorously. When I reached him he was unconscious but occasionally groaned. His pulse was imperceptible and the heart sounds could not be heard, while his face was cold and clammy and tears flowed down his cheeks. I injected strychnine and morphia hypodermically, which had no effect, and used artificial respiration. His breathing, however, became irregular and slower and he died within 15 minutes of his seizure. I learned afterwards that two days prior to his death he had had some discomfort in his chest which he regarded as rheumatism and used some liniment for it but attached no importance to it. In view of subsequent events, however, it is possible, as the patient had been leading a very active life, that this may have been a prodromic symptom of the angina which slew him in what was practically his first attack. For the series of attacks on the day of his death constituted a more or less continuous status anginosus. I obtained permission to examine the heart after death. This is the case which manifested slight atheroma of the aorta, with a comparatively early stage of that change in the coronary arteries, fatty infiltration of the cardiac muscle, and fine fatty degeneration of the muscle fibres. I have already shown you sections from the case when dealing with the pathology of the condition and now show a lantern slide of the general appearance of the fat-laden heart and a preparation of the base of the organ and of the aorta, showing normally patent coronary orifices.

To consider the painful angina in such a case as due to defective circulation in coronary vessels which were widely

[2] Commentarii, p. 312.
[3] Maladies du Cœur, &c.
[4] Lane Lectures, reprint, p. 115.

patent and only moderately thickened in their inner coats and to ignore the invasion by fat and degeneration of the muscle itself, as a thorough-going adherent of the coronary vascular theory like M. Huchard would do, appears to me to be unreasonable. On the other hand, there was certainly nothing in the condition of the aorta to support Professor Clifford Allbutt's views as to the aortic origin of all angina and I showed you in the last lecture that the nerves in this case and the ganglia might be regarded as normal for the age of the patient. In these circumstances we are justified, I believe, in maintaining that in one variety of painful angina the muscular factor in spasm plays the leading part and that the simple and obvious interpretation given by Heberden of some of these cases is correct. That such, like most other cases, are compound will be argued later and then a subsidiary rôle may rationally be assigned to other factors in cardiac action.

I have also seen another patient die in the first attack, in which the pulse was full, slow, and soft during the agony. The patient was a gentleman, about 60 years of age, rather stout, of a florid complexion, and a temperate man of industrious habits, but rather a heavy smoker. In this case there was no post-mortem examination but I should clinically class him with the case I have just related. I have also seen angina in a similar case which threatened to be fatal pass off and not recur, although, of course, it may, for the patient still lives.

Aneurysmal coronary angina.—Since the day on which Edward Jenner, with that simple yet rare acumen which characterised the first vaccinator, found something gritty strike his knife at a necropsy on a case of sudden death and thought that a portion of the ceiling had fallen on the organ, but examining more closely discovered the first calcareous coronary artery in connexion with such cases, until now, that state of these vessels has been associated in the minds of physicians with the cause of angina pectoris. Jenner's friend John Hunter, to whose memory in some sense this college has been erected as a temple (for I remember his bust over the portico of the first building), died from angina and his heart, which was small and probably atrophied, contained the calcareous coronaries which Jenner was the first to detect in an indubitable case of angina. But many instances have occurred in which these chalky channels have existed and yet the organ which has lodged them has at no time evinced the symptoms of angina. One cannot, therefore, use the presence of this condition alone as a factor in the more precise classification of angina. But some state in association with such vessels may well be distinctive of a type of that malady.

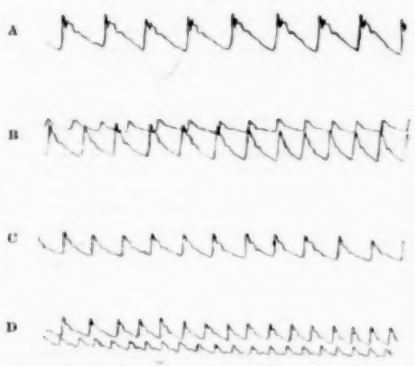
It would be hasty and unscientific to assume, because in a well-marked case of the classical variety of angina pectoris a well-developed internal or masked aneurysm with surrounding inflammatory processes has been found, and moreover in close proximity to nerves, that such a condition must necessarily account for angina in all such cases. I make no such claim. In complex cases of the disorder, and perhaps most cases are complex, other conditions may be more directly causal; but I think we are justified in assuming that the case in which this condition has been found, and which I shall relate presently as typical of the clinical history of this variety of the disorder, gave evidence of no other condition which could be regarded as more directly causal of the cardiac pain than this aneurysm and the neighbouring innervation of the vessel. I have, therefore, in the meantime taken this striking feature in the case as the mark of at least one variety of the disease and have used the term "aneurysmal coronary angina." Should a closer examination of decalcified coronaries reveal the fact that such aneurysms are common in them without having provoked pain the term will have to be abandoned. If, however, this does not prove to be the case it appears to me that we have in such a circumstance a simple and sufficient reason why an aneurysm such as this one, fully developed, sub-muscular, and freely communicating with the lumen of the vessel, pulsating with every throb of the heart, and recording on the muscular coat of the artery variations in arterial pressure, should explain, at least in some cases, why one person may have calcareous coronaries without angina and why another, with apparently the same condition of these vessels, should know all the agony of breast pang. What other circumstances in the case I am about to relate could have more directly caused angina? The vessels were much occluded but the cardiac muscle was well preserved, as I have already demonstrated. We have also noted the excessive freedom of coronary anastomosis and in this case the right coronary artery had two small orifices, one of which may have been in connexion with the third or supplementary vessel which sometimes exists and is known as the artery of Vieussens. The tension of the patient's pulse was somewhat raised, as will be stated, but the response of his heart's action to the pain was regular, quick, and as normal as that of any healthy heart would be under the emotion inseparable from such distress. The organ as a whole was neither hypertrophied nor atrophied. The atheroma of the aorta apart from that of the coronary vessels was moderate in degree. The valvular apparatus of the heart was competent and unobstructed. It is true that a structure, probably ganglionic and inflamed, was found in the right coronary artery, but it could only have been recurrent fibres passing through the ganglion, not the ganglion itself, which caused the pain if the nerves were involved, for we at present believe that such peripheral ganglia have motor, not sensory, functions. The aneurysm, then, would seem to have been the efficient cause of pain in this case, the typical clinical history of which was as follows.[3]

The patient, a man, aged 53 years, a gilder, came under my care at the Great Northern Central Hospital on July 25th, 1894. He complained of breathlessness with attacks of pain in the chest which passed down the left arm to the fingers and up the left side of the head. He had suffered thus for more than seven years. He had never had rheumatic fever but had, during the 10 years previous to my seeing him, suffered from gout in the great toe on four occasions. When he first came under my notice nought amiss was detected in his heart beyond increased impulse. His pulse-rate was 60 and its tension was raised. Under the use of trinitrin and a mercurial pill the attacks became less frequent and the patient ceased to attend the hospital in August, 1894. On Nov. 21st of the same year he again presented himself, stating that he had been ill for ten weeks with what he called "rheumatic gout," an attack which would, no doubt, have been more correctly described without employing the qualifying adjective. He was rather under medium height, well-built, thin, with a dark complexion, grey beard, and bearing a feeble and suffering expression. On examination his tongue was furred, his appetite was bad, and his bowels were costive. His pulse-rate was from 66 to 72 and its tension was slightly increased. The heart sounds were clear, the apex beat was diffused, and there was systolic and diastolic pulsation in the epigastrium. The lung sounds were normal. His urine was sufficient in quantity and contained neither albumin nor sugar. The arcus senilis was present in both eyes. He still complained of breast pang and the following particulars as to its character, situation, and the circumstances in which it occurred were elicited on this occasion. The pain commenced about the level of the fourth rib on the left side, passed up to the sternal notch, and gave rise to a suffocative feeling; it was then felt in the left shoulder and down the left arm, being felt in the four fingers of that hand, never in the thumb and most acutely in the ring and little fingers. The pain was also stated to shoot up the nape of the neck and into the head. It was severe, lasting sometimes ten minutes, sometimes for half an hour. The patient could not move when the attack came on, as every step appeared to make it worse. He was compelled to stand up and could not lie or even sit down. It caused him to breathe deeply but not quickly. It induced involuntary micturition. When gas escaped by the œsophagus he experienced relief. This occurred in a minute or two after the commencement of the attacks. He stated that the heart beat "very fast indeed" during the attack and as pain passed off it became quieter. The attacks usually occurred after some exertion but on two occasions had wakened him out of sleep. On awaking thus in pain he observed that his heart was beating quickly. He felt at times during the attacks as though he would not recover. They caused him to feel cold. He did not, however, perspire after or during the attacks. He had found during his first attendance at the hospital and while taking trinitrin that the attacks were of short duration and that he had been much relieved thereby. Five-minim doses of liquor trinitrinæ were prescribed, the mercurial pill was repeated, and he was asked to take a mixture containing nux vomica, chloride of ammonium, and bicarbonate of sodium. Notwithstanding the temporarily beneficial action of the

[3] Particulars of this case were first published in Treatment on Oct. 28th, 1897.

trinitrin the attacks of breast pang continued and became more frequent. To ascertain the sphygmographic character of the patient's pulse, as also the effect upon it of trinitrin, the tracings A, B, and C (Fig. 8) were taken on Nov. 28th

FIG. 8.



A Tracing of right radial pulse; free from pain and without trinitrin; Nov. 28th, 1894. B The same; free from pain and under trinitrin; upper, full effect of drug; lower, effect subsiding; Dec. 5th, 1894. C The same; pain just passed off; no drug used; Jan. 16th, 1895. D The same; lower, during attack of pain; upper, pain subsiding under trinitrin.

and Dec. 5th, 1894. The trinitrin was administered in the absence of angina. On Dec. 12th a soft systolic mitral bruit was noted for the first time, and in view of the increased dilatation of the left ventricle which this sign indicated a mixture containing tincture of digitalis and liquor strychninæ was prescribed, and on Jan. 2nd, 1895, the patient felt better though the attacks were still frequent and the apex bruit was not audible. On the 16th it was noted that the pain tended to spread into the *right* arm. While seated in the waiting-room of the hospital the patient had occasional attacks of angina and on the 16th while under examination by me he had a moderately severe attack. The pulse-rate rose to 114 and fell to 96 when pain passed off. The sphygmogram C (Fig. 8) was taken immediately after relief, no drug having been given. After this date the mitral systolic bruit was usually present and the attacks of angina were frequent and of variable duration—so frequent and so variable in severity that some who saw the case believed that the patient was dyspeptic rather than suffering from true angina. Latterly even the trinitrin, which he regarded as a friend in need, ceased to relieve him to the same extent as previously. Finally, on June 29th, 1895, at 5 o'clock in the afternoon, he was seized with pain in the chest in his own house. He said that he felt as though his heart would burst, remarked that he felt faint, and fell down on his knees. Just previously to this he had taken the trinitrin, said that the drops would be of no use to him this time, and expressed the hope that "the Almighty would take him." He spoke no more and died without a struggle at 5.30—that is to say, in about 25 minutes after he was seized with breast pang. These particulars I ascertained from those who were present at his death.

External and evident aneurysm of the coronary arteries is not unknown but has been rarely reported. In the Transactions of the Pathological Society of London [6] Dr. T. B. Peacock relates a case the previous history of which was unknown but in which the patient had an attack of angina on the day preceding death. It was not, however, the actual cause of death which seems to have been due to a rheumatic attack with sero-purulent pericarditis. In this case there was an aneurysm of the left coronary artery as large as a pigeon's egg which was buried in the left ventricle at the base of the heart. Peste [7] reported a case which is quoted both by Peacock [8] and by Huchard [9] in which the patient, a man aged 77 years, died from the rupture of an aneurysm of the size of a hazel-nut in an ossified coronary artery. Huchard likewise mentions a case published in an inaugural thesis by Hofmann in 1886, in which a woman, aged 33 years, who suffered from asthma and angina pectoris, exhibited after death, with other changes, aortic valvular disease and an aneurysm of the right coronary artery. The conditions indicate this case as having been syphilitic. In the Transactions of the Pathological Society [10] Mr. J. Jackson Clarke relates the case of a child who exhibited numerous aneurysms on the coronary arteries which it is suggested were probably either specific or micrococcic. The child had acute endocarditis.

Coronary occlusive angina.—Some who are averse to the acknowledgment of a musculo-spasmodic angina of the cardiac muscle itself do not hesitate to admit the feasibility of a theory which rests upon an intermittent spasmodic closure of the coronary vessels, having in its train an ischæmia of the cardiac muscle which eventuates in the angina. With this claudicatory theory I am not at present concerned. In the last lecture I pointed out how absolutely hypothetical the conception of such a mode of angina at present is. By coronary occlusive angina I mean an angina the result of atheromatous occlusion of the coronary arteries. We have seen how as life advances there is a thickening of the internal coat, which, if in a measure protective at its outset, passes in many cases into a destructive phase, leaving in its train impediment to the circulation, with or without additional lesions, involving a solution in continuity of the coats of the vessels. With one phase of this vascular destruction—namely, aneurysm of the coronary artery—we have already dealt at some length. On occlusive coronaritis or atheroma I wish in this place to say a few words. Given satisfactory proof of the apparent soundness of the cardiac muscle, of the nervous apparatus governing the sensibility and motions of the heart and of the character of the blood itself, and given then a considerable impediment to the flow of blood into both coronary arteries, I am prepared to admit that the chief factor in the production of angina in some cases may be a condition of difficult circulation in the nutrient arteries of the heart. But this is a very different position from that taken by those who, on the detection of a certain amount of atheroma in the coronaries of those who die from angina pectoris, assume without more ado that this state of the coronaries is chiefly responsible for the syndrome of Heberden's disease. It is notorious that the exclusion of the other possible factors in the disorder is in many cases not even attempted, and that even when it is attempted it is done without the exhaustive investigation which alone carries weight or brings conviction to the mind. While, therefore, coronary occlusive angina may be accepted as a variety of that affection, we cannot too soon emancipate ourselves from the thraldom of too narrow a view of the causation of angina, however influential the nominal support given to such a theory. "Facts," alone, "are chiels that winna ding, And daurna be disputed," and they are only to be found by looking not for them, which is dangerous, but for "more light."

Aortitic angina.—I have postponed until now the consideration of acute aortitis because one of the best descriptions of the disease in association with angina with which I am acquainted is from the pen of M. Huchard, with whose argument founded upon it I am unable to agree.

Adrien G., 32 years of age, a stoker, was admitted into the Hôpital Tenon under the care of Huchard on Feb. 6th, 1883. A drunkard, he had contracted syphilis in 1872. For a month he had complained of vague pains in the chest coming on during work, accompanied by radiations into the left arm, the elbow, and the two last fingers of the left hand. The pains come on suddenly and while they last he has to leave off work. The lungs and the heart are perfectly healthy; neither at the apex of the heart, nor at the base in the aortic region, can abnormal signs be discovered. The urine is clear, sufficient, and without albumin. On Feb. 11th at the morning visit he complained of uneasiness in the præcordial region, with slight pain in the left arm. The patient was able, however, to leave his bed and the day passed comfortably enough. At nine o'clock in the evening he awoke suddenly and complained of a violent agony—an atrocious pain with a sense of suffocation in the præcordial region which caused him to writhe on his bed. The face became cyanosed and the patient constantly placed his hands over the lower part of his chest, as if to remove an insupportable weight. This painful crisis, accompanied by anguish, lasted with various recurrences till half past 11 o'clock; at no time during this final attack did the patient complain of pain in the arms. He died in a minute.

Necropsy.—The lungs are much congested, allowing very dark blood to escape on section. Over the course of the aorta from its origin to the pillars of the diaphragm an enormous injection reveals itself as an extremely well-marked vascular network. In the sheath of the artery at its posterior part, at the level of the periaortic pericardium,

[6] Vol. i., p. 227.
[7] Archives de Medecine, 1843.
[8] Loc. cit.
[9] Op. cit., p. 849
[10] Vol. xlvii., p. 24.

there are four ecchymoses, situated one at the origin of the brachio-cephalic trunk and the left carotid and three others about two centimetres from one another. They are each of about the size of a lentil. On dissecting the aorta there is well-marked congestion of the surrounding structures, but the congestion does not reach the pneumogastric nerves. At the final portion of the arch of the aorta where it becomes vertical there is in its interior a large patch of aortitis three and a half centimetres long, following the course of the vessel, and almost two centimetres broad. This patch is situated to the left and rather posteriorly in the aorta. It makes a marked elevation on the interior of the vessel and is not at all calcareous. It has a gelatino-fibrous consistency, pale grey colour, and irregular outline and surface. A fresh section examined microscopically showed a very abundant proliferation of connective tissue in the internal coat and a well-marked thickening of the middle coat; the outer coat is slightly thickened and the connective tissue there is more abundant than normal. In the patch of aortitis there is neither fatty nor calcareous degeneration. On continuing to open the vessel in the direction of the left ventricle we find another patch of inflammation just where the left carotid arises. The calibre of this artery is also much diminished and is scarcely a fourth of its normal size. This patch goes quite round the carotid, but does not project more than half a centimetre into its interior. It, also, is fibrous, not calcareous. Still lower we observe at the root of the aorta, over the whole expanse of the vessel, at a height of three centimetres and one and a half centimetres above the free edge of the sigmoid valves, a swollen surface, pale grey in colour, with a sinuous outline, rather hard to touch, but not calcareous. It would seem, then, to have been a matter of comparatively recent aortitis. The cardiac muscle was pale and had a little surplus fat. There were no inflammatory lesions on the mitral and tricuspid valves. The aortic valves were competent and without a trace of inflammation. The cardiac muscle examined microscopically was found healthy. The other organs are much congested; the kidneys, the liver, the spleen, the pia mater, the brain, the bulb; they showed no other change. The cardiac plexus was not examined microscopically, but by the naked eye it was impossible to detect the least trace of periaortic hyperæmia. The ecchymoses which were found in the front of the aorta were nothing more than the results of the suffocative conditions which terminated the attack; they could in no way be regarded as a cause of the angina. The inflammation of the aorta has produced a considerable diminution in the size of the coronary arteries. These arteries themselves have an important peculiarity; thus, we find only one coronary arising at the level of the free edge of the sigmoid valves; its orifice is so diminished under the influence of the endarteritic inflammation that one can scarcely pass the point of a very fine probe through it. Immediately thereafter the calibre enlarges and resumes its normal diameter.

The report of this case, contributed by M. Huchard and M. Pennell, first appeared in the *Revue de Médecine* in 1883 and is among those so industriously collected and published by M. Huchard in his well-known work, to which I have already had occasion to refer (p. 824). I offer no apology for having translated this fragment literally and transcribed it bodily. It is the work of a master alike of language and of clinical observation. It is also the work, if I may say so, of a special pleader in pathology. The inflammation did not touch the pneumogastric, the cardiac plexus was to the naked eye free from inflammation, but the blood-supply to the organ was encroached upon in a very remarkable manner. Yet, the cardiac muscle, though pale, was normal, and the valvular apparatus of the heart was sound. "*La théorie artérielle, coronarienne*" holds good even here! Now, so long as blood gets into the coronary system at all the absolute freedom of anastomosis in that system seems to render it a matter of little moment whether a man have one or three coronaries and whether his arterial orifices gape or are contracted. Localised portions of the myocardium may become fibrotic or degenerate from being robbed of blood, but this occurs only when the larger vessels are absolutely closed or smaller branches are occluded by peripheral endarteritis which has nothing to do with atheroma. For, as Coats and Auld have shown, these processes play opposite parts, atheroma affecting the larger, endarteritis in its obliterative phase, most characteristically, the smaller vessels. In M. Huchard's case the cardiac muscle was healthy and we may therefore take it that its blood-supply was not materially interfered with. But no one has more graphically or better described the potential sensibility resident in arteries than M. Huchard and in the widespread and superbly delineated acute aortitis in this case it seems to me that we have quite a sufficient explanation of the breast pang of this patient without the importation of any more obscure theory. This case, then, I would submit, was no evidence of the relation of the coronary circulation to angina pectoris but of the anginal pain associated with an acute aortitis, a variety of the disorder which may be suitably described as aortitic angina. Such a case offers every support to the views of Professor Clifford Allbutt, who has eloquently enunciated the aortitic theory of angina. "Many years ago," he writes, "in the days of my studentship at St. George's Hospital, a case came under my notice which I see as vividly as if the patient were still before me. A man of some 30 or 34 years, of vigorous frame and apparently of vigorous constitution, lay propped up in bed in extreme agony. He complained, when he could whisper to us, of intense retro-sternal pain, never absent, indeed, but returning upon him in paroxysms. The pain radiated about the shoulder or shoulders; whether it extended down the arm I cannot remember. The respiration was restrained in dread. There were no physical signs to betray the presence of the disease within. What I vividly recollect, as if burnt into my mind, is the aspect of the man, bound on the rack in the presence of death, and yet, for the agony at the centre of his being, unable to cry out. Consultations were held but to little purpose, save to certify that the case, if one of angina pectoris, was a strange one, because of its continuous if still paroxysmal character, and because of the fever with it. Bence Jones, whom no man exceeded in brilliancy and rapidity of diagnosis, declared for acute aortitis; the patient died suddenly soon afterwards and the necropsy justified Bence Jones's opinion. On the inner surface of the ascending aorta were groups of grey, semi-translucent patches disfiguring the walls of the slack and dilated vessel; and—let this be carefully noted—no other cause of death was discovered. The heart and coronary arteries were healthy."[11] After discussing acute aortitis he proceeds to describe a case of "stenocardia" induced by such exercise as walking up a hill, and comes to the conclusion that the pain in such "*and in* ALL *such cases is not cardiac but aortic.*"[12] That the clinical picture which Professor Allbutt has so eloquently word-painted is associated with paroxysms of pain which may justly be included in the category of anginæ pectoris cannot for a moment be doubted, and that he is fully justified in ascribing the distress to the local inflammation appears to be incontestable. But does such a fact, in view of the pathological bases of angina into which we have examined, justify so sweeping a generalisation as that which assumes that the pain characteristic of Heberden's disease cannot be originated elsewhere, in muscle, or vessel, or nerve? I would respectfully assert that it does not, but that muscular spasm, aneurysmal pressure, and local neuritis, as well as other states to which we have still to refer, may cause pain which is certainly pectoral and retro-sternal, but neither aortic nor aortitic.

Aortic aneurysmal angina.—It is related of a Dutch boy that perceiving a leak in some portion of the dyke which has turned a waste of waters into a rich and thickly populated land, the Hollow-land, or Holland, he placed his little hand over it, gave the alarm, and held the ocean at bay until the defect had been remedied and the population saved. The narrative is probably true, for it is scientifically explicable. The pressure of fluid is proportionate to the surface it presses upon, no matter what its actual volume. We are not, therefore, surprised when we find the heart and coronary system little affected by the blood pressure even of large aneurysms in the aorta. What *does* frequently occasion us surprise is that patients should carry with them, sometimes for a lengthened period, considerable aneurysms of the aorta, with all their secondary vascular manifestations in impeded venous circulation, without evincing great discomfort and sometimes having no pain. But this is not by any means always so and there are probably few cases of aneurysm of the aorta which have not, at one time or another during their growth and existence, caused some pain. At times this pain is great and not to be distinguished, apart from local considerations, from angina pectoris due to one or other of the causes we have already considered. "Many authors from Morgagni downwards," writes Sir William Gairdner in his memorable essay,[13] "have recorded cases of thoracic aneurysm, having in a more or less perfectly developed form the characteristic symptoms of angina pectoris, and we have already alluded to M. Trousseau as confirming by his large and carefully-watched experience the view that such cases very closely resemble, and may, in fact, for a lengthened period and after careful examination, be indistinguishable from what he regards as the truly idiopathic forms of angina. The author of this article," he further states, "is able from personal experience to say that no organic disease has appeared to him more frequently to assume the symptomatic characters of angina than aneurysm, and he is also prepared to state as the general result of inquiries pursued over many years, and particularly directed to this subject, that even

[11] Lane Lectures, Reprint, p. 119.
[12] Ibid., p. 124.
[13] Reynolds's System of Medicine, vol. iv., p. 544.

small aneurysms arising very near the heart, and especially such as project into the pericardium or compress in any degree the base of the heart itself, are much more apt to give rise to angina-like symptoms than much larger tumours in more remote positions." This important statement, embodying the experience of one who by nature and opportunity has had every qualification for sound observation, justifies the classification of an important variety of angina as arising in connexion with aneurysm of the aorta. It is an important fact, also, that those aneurysms which evinced this symptom on the whole most markedly were *small* aneurysms, aneurysms which could not, to the same extent as larger tumours, have penetrated the muscular coat of the vessel and paralysed its grip on the throat of the sac. Knowing as we do the comparative insensibility of the viscera including the heart, and bearing in mind the fact that considerable pressure may be exerted on that organ without causing pain, it appears more probable that the anginiform symptoms in connexion with such aneurysms are due less to their pressure upon the heart than to the neuritic and lacerative processes taking place in the aneurysms themselves.

Intra-vascular neuritic angina.—M. Huchard,[14] having at heart the interests of his client coronary angina, lifts up his voice against the confusion of that variety with any neuralgic or neuritic pretender to the title of angina pectoris. With this attitude I am in no way concerned to quarrel, if the distinguished advocate will limit himself to the defence of his angina *as a variety*. But he will accept no such limited rôle. After demonstrating how even peripheral nerves will degenerate if robbed of their blood-supply and coming to the conclusion that the nervous accidents possible in the course of his angina are but accidents, neuralgic or neuritic, he presses the lesson home and exclaims: "There are not several anginæ pectoris, but only one—coronary angina" (p. 652). I admire the eloquence and ingenuity of the advocate; I am not convinced by his argument. I have already shown you in dealing with the pathology of the subject, and buried in the wall of the right coronary artery of a patient who died in angina and after long suffering from angina, not only an aneurysm, but also an inflamed and thickened nerve ganglion. I do not say that this was the sole cause of the angina and of the vascular disturbances which follow pain in organs under the sway of emotion, but I defy either M. Huchard or anyone else to say that it was not at least as likely to induce these phenomena at times as any condition of the cardiac muscle, healthy to all appearance, notwithstanding a greatly hampered coronary circulation. That circulatory impediment may in a certain proportion of cases play the major rôle in angina pectoris I have already admitted. That it does so in all I deny. It is the more remarkable that M. Huchard should so inexorably limit himself to one explanation of angina because he has evidently carefully examined the condition of the coronary circulation and admits in one places a free anastomosis of the vessels but in another appears to agree with Hyrtl who denied this. He explains the absence of angina in some cases in which the arteries are calcareous and yet the muscle healthy, by maintaining that atheroma of this type may serve to maintain the patency of the vessels and that a supplementary artery may come to the aid of the threatened muscle. But in the case I have related the muscle was healthy, the vessels were much obstructed by a narrowing of their calibres, and there certainly was a supplementary artery of Vieussens, or fat artery, arising close to the right coronary. The case nevertheless had "true angina" and died in an attack, but the wall of the coronary artery contained both an aneurysm and an inflamed nerve ganglion. Therefore, I think we are justified in maintaining, contrary to the conclusion at which M. Huchard has arrived, that there is not only one angina pectoris but that there are several and that intra-vascular neuritic angina is one of these. Before M. Huchard can establish his theory, therefore, much water must flow below the bridges—many coronary arteries, calcified, atheromatous, and healthy, will have to be examined minutely, by many sections and in a considerable portion of their extent. Why, we do not even know what the anatomy of the innervation of the coronary arteries is. The results of the Golgi method, which I have myself used to elucidate this point, I regard now as altogether misleading in many instances.

Extra-vascular neuritic angina.—I have already stated that the extra-vascular nervous structures when they have been carefully examined in fatal cases of angina have frequently been found healthy, and this is in all probability true in some cases of the intra-vascular nerves also, but in a certain number of cases, as I have mentioned, the extra-vascular nerves are admittedly involved. In these we have seen that the affection of the cardiac plexus appears to have been secondary—a consequence of the extension of vascular inflammatory processes to the nervous elements in their vicinity. This was so in Lancereaux's case In such cases the inflamed plexus may indeed be regarded as contributing to the angina manifested, but it is only an extra-vascular neuritic element in the case. In being so, however, this condition is not peculiar, for we shall learn that in the majority of cases the underlying physical basis of angina is complex. Most anginæ are probably compound, with in some cases a preponderant leaning towards one or other of the varieties which have been described. We are, however, but on the threshold of our knowledge of the rôle of the nervous system in angina and many more systematic and accurate investigations into the extra-vascular nervous system in such cases must be undertaken before we can speak with any authority upon this particular point. In "tabetics," using the word not as Heberden did when he classed tabetics with peripneumonics,[15] but in the modern sense as applied to those having inflammatory changes in the ganglion on the posterior root of the spinal nerves and in the columns of Goll and Burdach, we find that the lightning pains experienced in the lower portions of the body have at times their homologues in the region of the thorax. While we have to be on our guard against confusing intercostal manifestations of this kind with pain in the nerve tracts passing from the spinal cord to the heart, there seems no sufficient reason to question the occasional occurrence of such. It is true that in some cases in which this condition (angina) has been reported the patient has also had aortic valvular disease and that both the nervous and vascular lesions have been attributed to syphilis. But the angina has, as a rule, been explained solely by reference to the aortic lesion and when the latter exists that conclusion is probably the most rational. But all tabetics have not aortic valvular disease and when angina of lightning-pain character arises in these it is quite possible that the source of the affection may be extra-vascular and neuritic—the peripheral and visceral expression of a central nervous lesion. Indeed, the radiation of cardiac pain outwards is in itself an argument in favour of the possibility of a projection of the irritation of the sensory roots of the spinal nerves inwards. Such a visceral projection of central stimulation might also follow the course of the pneumogastric tract, but as we have less anatomical evidence of this than we have even of protection from the centres of the sympathetic stream we cannot with any benefit enter into its further consideration at present. In the higher centres of the brain we have no physical pathological facts to justify our attributing angina pectoris to a central lesion, but in the introduction to these lectures the influence of the emotions on the action of all the viscera, and especially upon that of the heart, was pointed out, and Heberden recognised that excitement favoured the onset of attacks of angina (*perturbatione animi augitur*). The central influence, however, in such cases but stirs into activity the local factors in the disease elsewhere.

Neuralgic angina.—The use of this term raises the question of the propriety or otherwise of employing such an expression as "pseudo-angina." What is true angina? Contrary to the aim of some who have spoken and written upon the subject I have deliberately avoided referring the well-known clinical features of the affection to only one category of physical conditions. Pain and its consequences, when connected with a particular abnormal organic state, may bear a close resemblance to pain and its results when these are associated with another abnormal state—that is, the consequences have a unity which the causes have not. If angina pectoris be one it is also divisible; but if there be real pain and the consequences of such pain are manifested in a typical manner by a series of recognisable phenomena, why regard it as spurious because when associated with a certain condition it is less fatal than when associated with another? As I maintained in a paper on the blood pressure in angina pectoris, published in the Edinburgh Hospital Reports,[16]

[14] Op. cit., p. 645 et seq.

[15] Op. cit., p. 308.

[16] Vol. iv., pp. 246-265.

"A case of 'true angina' is one in which there is no doubt about the angina, and there is no mistake about the reality of breast pang in many so-called functional cases. ..... The idea of spuriousness is only permissible in so far as angina is not associated with demonstrable lesion, and because the tendency to it in many cases yields to judicious treatment or wears itself out." Professor Osler quotes these passages with approval in his instructive monograph on angina pectoris and adds (p. 87), "Herein lies the essence of the whole matter—the symptoms on the one hand indicate the existence of a grave organic, usually incurable malady, and on the other a condition very distressing, it is true, but rarely serious and usually curable. The advantages of thus recognising a functional group far outweigh any theoretical objections, and in a series of cases the forms are, with few exceptions, fairly well-defined." Now, actual *neuritis* is generally associated in angina with grave organic disease of the structures innervated, and it therefore appears to me to be preferable to separate these from cases in which no organic disorder is discoverable, and pain and its immediate effects are the chief phenomena. Long usage permits our calling such cases "*neuralgic* angina," which is perhaps more definite than, and preferable to, such terms as "false" or "pseudo-angina." Far as the nervous endowment of the heart and its vicinity still is from thorough elucidation, much progress has been made in unravelling this obscure subject. We know the mode of ultimate distribution to the cardiac muscle, we know somewhat the innervation of the blood-vessels of the heart, Thoma believes he has demonstrated Pacinian bodies in the vascular wall, the main nerve trunks have been known of old, and, as was shown in the first lecture, the sources of the visceral nerve-supply have in great measure been successfully traced; why, then, hesitate to recognise a possible neuralgia of the intrinsic and extrinsic nervous mechanism of the heart?

AN ANALYSIS OF A SERIES OF 500 CONSECUTIVE OPERATIONS FOR PRIMARY CATARACT PERFORMED IN FIVE MONTHS IN THE GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS.

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FROM this series all secondary cataracts are excluded. I have also excluded 16 cases in which, though the cataract was presumably primary, the indication for extraction of the lens was the relief of an acute glaucoma which had already destroyed, or nearly destroyed, vision. Five cases in which cataractous lenses which had been couched by native practitioners were removed will be published separately. No other class of cases is excluded and no patient was refused operation provided that there was even a small chance of improving his vision. This explains the failures under the head of "black cataracts"; these were submitted to operation with considerable hesitation.

The cataract-operation day in the Government Ophthalmic Hospital, Madras, is Saturday and the cases coming in during the week are kept for that day. The smallest number operated on in one day was 13 and the largest was 53. On three other occasions more than 40 cataracts were extracted in one morning. In all 464 cases were operated upon on 17 Saturdays, giving an average of a little over 27 per diem. The remaining 36 cases were done on the general operation day (Tuesday) and were mostly cases of very immature cataract which it was thought advisable to relegate to that day in order to avoid too much delay on the cataract day, as the washing out of an immature case often takes a long time. These 36 cases were operated upon on 13 Tuesdays. The whole series of operations were performed between June 22nd and Nov. 2nd, 1901—a period of 19 weeks. On an average from 12 to 16 patients were operated upon in an hour, the number falling as low as eight when the subjects were refractory and rising on one occasion to 20 when a particularly easy series was in hand. Two tables are used and while an operation is taking place on one, on the other the previous patient is being dressed and the coming one is being prepared. 277 right eyes were operated on and 223 left eyes. Opium was given twice before operation to quiet the patient and morphia was given hypodermically 37 times for the same purpose. The results were excellent. One young child was given chloroform for the two eyes in turn. For my assistant I had the good fortune to have Mr. Collins who, as the assistant surgeon of this hospital for many years, has probably seen more cataracts extracted than any other living man (about 12,000). Such success as I have met with has been largely due to his very skilful and resourceful help and to his able care of the after-treatment which he personally supervised under my instructions. I also owe him my thanks for much valuable help in preparing the statistics of this series. The irrigator was under the care of a student who devoted his whole energies to it for the time being. He was not allowed to touch any other instrument during the operation.

Preparation of instruments, &c.—All instruments used are boiled before and after each operation; the knife and stop-needle are excepted, these being carefully wiped each time with sterile absorbent wool soaked in chinosol solution (1 in 3000). As a large number of cases are operated on every Saturday four sets of instruments, each in a tray, are kept in use and two trays are boiling while one is on the table and one is cooling on a sterilised cloth.

Method of operating.—A spring speculum is inserted and the capsule is lacerated freely by means of a Bowman's stop-needle. Care is taken to tear a free aperture in the centre of the dilated pupil. The section is made in the sclero-corneal margin and varies in size from just under half the circumference to less than a quarter of the same. One always endeavours to graduate the section according to the size of the lens, making it large for bulky hard cataracts (nuclear), medium for cortico-nuclear cataracts, and small for Morgagnian or soft cataracts. It is held to be a cardinal principle of successful operation for cataract that the incision should be sufficiently large and that it is well always to err on the large side when in doubt. An iridectomy is performed, the object being not to make a wide section, but to remove the whole depth of iris over a narrow area, thus providing a safety sluice-gate for the aqueous humour should the section burst during the after treatment. The nucleus and any cortex which readily escapes with it are delivered by manipulation and the speculum is at once removed. The chamber is washed clear of cortical débris, blood, &c., by MacKeown's irrigator, the stream being first directed backward under the iris for this purpose; as soon as the chamber is seen to be clear of cortex the iris is replaced by directing a stream of water along its front surface, the point of the nozzle being at the same time inserted into the angle of the wound to release any iris impacted there. The eye is closed by means of a pad of lint wrung out in chinosol solution (1 in 3000), a pad of sterile cotton wool fills up the cup of the orbit, and finally a firm bandage is applied.

After-dressing.—Each case is inspected and dressed daily after operation; if all is going well a minimum of interference is indulged in; any discharge is gently sponged away and the lids are opened to let out retained aqueous and at once closed again. Any complications are treated as they arise. Atropine solution (four grains of the sulphate to the ounce) is instilled as a routine measure on the third morning provided there is no contra-indication. The sound eye is left open on the fifth morning and the operated eye is released on the seventh day if it is doing well. The patient is discharged from hospital on the seventh day and is directed to attend as an out-patient for another two weeks. Vision is tested on the day of discharge with Snellen's dots for near and far distance. Only spheres are used for the testing, and + 10 and + 16 are principally relied on. Press of work forbids a more elaborate test being applied. (Further remarks on this subject will be found at the end of this paper.) In cases of double cataract the second eye is, in the absence of any contra-indication, operated on one week after the first. The most favourable eye is always selected first. No case is permitted to leave hospital in which there is the slightest evidence of ciliary congestion or of iritis. Such cases, which are fortunately few in number, are detained as in-patients till the eye is absolutely quiet. A little catarrh, unaccompanied by pain or photophobia, is not an uncommon complication of convalescence; this does not prevent the patient being discharged and I have no recollection of having ever seen any harm come of it.

Preparation of the patient.—In an Indian hospital, with many waiting for every empty bed, it is not possible to keep a patient long under observation before operation. Inflammations of the conjunctiva are carefully seen to. The common type met with was a very subacute catarrh, which was dealt with by the daily application of a solution of nitrate of silver (three grains to the ounce). Lacrymal obstruction was always dealt with beforehand when possible, but provided that the discharge on pressure was clear and non-purulent an operation was not deferred after dilatation of the stricture. In addition to the measures suggested by ordinary cleanliness the lashes of the temporal half of the upper lid were cut the day previous to operation in order to avoid soiling the knife during operation. For hospital patients atropine is used on the day before operation, while for private patients homatropine is used. The distinction is due to the necessity for taking notes of so large a number of cases previously to operation and to other equally obvious needs imposed by routine when dealing with 30 or more operation cases in a day. For quiet patients cocaine suffices and the majority do not appear to suffer any pain from the operation, even though an iridectomy is performed; when patients are nervous morphia (from a quarter to one-third of a grain subcutaneously a quarter of an hour before operation) is invaluable. Whenever a patient gives trouble with the first eye or will not lie quiet when brought on the table he is given morphia. The result is marvellous. He then lies still and obeys every order, making the operation easy and safe. The eye is freely irrigated with chinosol solution (1 in 5000) immediately before the operation. Any flakes of mucus are removed with cotton-wool sponges mounted on sticks and carefully sterilised beforehand by boiling. The method of irrigating the conjunctival sac with perchloride of mercury was carefully tried; the resulting congestion was so great that the method was abandoned as introducing a fresh danger into the operation. This was doubtless due to the quality of the perchloride supplied.

Complications met with before operation.—(1) Conjunctival congestion or catarrh, 261, or 52·2 per cent.; (2) pterygium, 37, or 7·4 per cent.; (3) irido-donesis, 7, or 1·4 per cent.; (4) partial dislocation of the lens, 1, or 0·2 per cent.; (5) opacities of the cornea, 10, or 2·0 per cent.; (6) lacrymal obstruction (treated before operation), 2, or 0·4 per cent.; (7) posterior synechia, 6, or 1·2 per cent.; (8) nystagmus, 2, or 0·4 per cent.; (9) increase of tension over normal (often very slight), 80, or 16·0 per cent.; (10) diminution of tension below normal, 10, or 2·0 per cent.; and (11) iridectomy performed some time previously, 2, or 0·4 per cent.

1. Of the 261 cases in which there was catarrh or congestion of the conjunctiva 13 showed septic infection, or 4·98 per cent., while of the remaining 239 cases in which there was no conjunctival trouble 6 showed septic infection, or 2·51 per cent. The following is an analysis of these cases. In the 261 catarrhal cases panophthalmitis occurred in 2, or 0·766 per cent.; suppurative iritis in 4, or 1·532 per cent.; suppurative keratitis in 4, or 1·532 per cent.; and severe iritis in 3, or 1·148 per cent. In the 239 cases without catarrh panophthalmitis occurred in 1, or 0·418 per cent.; suppurative iritis in 1, or 0·418 per cent.; suppurative keratitis in 2, or 0·836 per cent.; and severe iritis in 2, or 0·836 per cent.

N.B.—I regret to have to confess that in the earlier cases of this series I operated on a number in which slight congestion of the conjunctiva was present without submitting them to preliminary treatment; warned by several septic results I thereafter treated every case of congestion with as much care as if it had been one of catarrh and with happy results.

2. Of the 37 cases of pterygium four inflamed after the extraction of the cataract; all eventually had good sight.

3. The cause of irido-donesis was probably the relaxation of the zonule of Zinn, in long-standing cataract, in most instances, but in such cases one always suspects an unsuccessful attempt to couch; couching of the lens is a common proceeding amongst native practitioners. In five of the seven cases the capsule was not needled, the lens being delivered entire; in two cases the capsule was needled, and in one iritis ensued and the patient recovered with only perception of light. The remaining six had good vision.

4. The dislocated lens was delivered by manipulation; a bead of vitreous presented and was excised; vision was M.B.E. at 1·5 metres.

6. The two cases of lacrymal obstruction were treated before operation and both did well after extraction.

7. Of the six cases of posterior synechiæ the vectis was used in two to effect delivery; in one one-sixth of the vitreous was lost and vision was M.B.E. at 1·75 metres; in the second case the vision was lost owing to iritis. In a third case the iridectomy forceps was used to remove a thickened anterior capsule before delivery; vision was M.B.E. at one metre. In the other three the lens was easily delivered and vision was M.B.E. at 1·5 metres, three metres, and 4·5 metres respectively.

9. 80 cases showed increased tension beforehand. The results of operation were as follows: M.B.E. at from one to six metres (i.e., $\frac{1}{100}$ths upwards), 71, or 88·75 per cent.; counted fingers at from one to two metres, 4, or 5·00 per cent.; perception of light only, 1, or 1·25 per cent.; and vision lost, 4, or 5·00 per cent. Of the 4 cases in which vision was lost 3 had catarrh of the conjunctiva beforehand and all were lost by suppuration. The case which ended in perception of light only was a black cataract.

10. Diminution of tension occurred in 10 cases; visual results were as follows: M.B.E. at from one to three metres, 7, or 70 per cent; counted fingers at six inches, 1, or 10 per cent; counted fingers at two feet, 1, or 10 per cent.; and perception of light only after iritis, 1, or 10 per cent. Remembering that the first series of cases was adversely affected by conjunctival trouble the results support the belief that low tension is a more unfavourable factor than high tension in cataract extraction.

11. The 2 cases of preliminary iridectomy both did well.

Complications which occurred during operation.—(1) Lens would not present and was delivered by vectis, 11, or 2·2 per cent.; (2) lens rotated during delivery, 10, or 2·0 per cent.; (3) a tremulous lens delivered by vectis, 1, or 0·2 per cent.; (4) lens became dislocated during operation and was delivered by manipulation, 9, or 1·8 per cent.; (5) lens delivered automatically by the patient squeezing the eye, 11, or 2·2 per cent.; (6) lens delivered entire in capsule, 15, or 3·0 per cent.; (7) delivery of lens assisted by traction with forceps, 2, or 0·4 per cent.; (8) iridectomy incomplete (i.e., not reaching to the base of the iris), 9, or 1·8 per cent.; (9) iridectomy performed after delivery of lens, 8, or 1·6 per cent.; (10) iridectomy performed during section by knife, 19, or 3·8 per cent.; (11) section too small for easy delivery, 10, or 2·0 per cent.; (12) laceration of capsule proved difficult, 5, or 1·0 per cent.; (13) capsule not lacerated, 6, or 1·2 per cent.; (14) capsule removed by the aid of forceps, 26, or 5·2 per cent.; (15) irido-dialysis due to sudden violent movements of patients, 5, or 1·0 per cent.; (16) inelasticity of the cornea, 4, or 0·8 per cent.; (17) hyphæmia, 13, or 2·6 per cent.; (18) loss of vitreous, 10, or 2·0 per cent.; (19) knife introduced with edge the wrong way, 1, or 0·2 per cent.; and (20) knife entangled in iris and had to be withdrawn and reintroduced, 3, or 0·6 per cent.

The following is a short analysis of the above complications:—

1. *Lens would not present; vectis delivery*, in 11 cases; four failed due to suppuration. Vision was good in two and poor in five. The vectis was sterilised in a flame in every case before introduction. I now avoid the use of this instrument if I possibly can do so.

2. *Lens rotated during delivery* in 10 cases; the vectis was employed to complete delivery in two cases; four had subsequent keratitis; two had slight iritis; in one there was prolapse of the iris; and three made an uninterrupted recovery. M.B.E. vision = from one to two metres in six cases, = from two to three metres in three cases, and = four metres in one case.

3. *A tremulous lens delivered by vectis*, with loss of one-sixth of the vitreous. Vision = M.B.E. at 1·75 metres.

4. *Lens dislocated during delivery; removed by manipulation*, nine cases; four had subsequent keratitis; in one the iris became impacted in the wound; in one case there were prolapse and occlusion of the pupil, for which iridotomy was done later; and in one iridectomy was performed after delivery of the lens. All recovered sight. Vision = M.B.E. at from one to two metres in seven cases, and from 2·25 to three metres in two cases.

5. *Lens delivered by patient squeezing the eye* in 11 cases. Five made uninterrupted recoveries; in one there was slight chemosis; two had a tag of iris caught in section, which subsequently required excision; in one during an iridectomy after expulsion of lens the patient moved suddenly and detached part of the iris-base, some vitreous escaping; in one iridectomy was done after delivery of the lens and

keratitis with faulty apposition of the flap ensued; and in one the iridectomy was partial and the conjunctiva was congested during the after-treatment. Vision = M.B.E. at from one to two metres in four cases, at from 2·5 to 3·5 metres in six cases, and at six metres in one case.

6. *Lens delivered entire in capsule* in 15 cases; four made an uninterrupted recovery; two cases were not needled as the lens was tremulous and they made an uninterrupted recovery; in one case an attempt was made to lacerate the capsule with the needle and repeated with the knife, and both failed, but an uninterrupted recovery followed; in one partial iridectomy was performed, with uninterrupted recovery; in one the section leaked; in one the patient jerked the knife out during the section and a tag of iris caught in the section was subsequently excised; in one the patient jerked the knife out and there was slight keratitis during convalescence; in two there was slight catarrh and in one slight keratitis during convalescence; and in one there was a slight escape of vitreous followed by keratitis. Vision = M.B.E. at from one to two metres in seven cases, from 2·25 to three metres in four cases, and from 3·25 to four metres in four cases.

7. *Delivery of lens by traction with forceps* in two cases; in one a disc of degenerated dried-up lens substance in its capsule was seized and removed bodily by means of iris forceps; vision = fingers at three feet; in one a black capsulolenticular cataract which proved to be very bulky was helped out by traction with conjunctival forceps; vision = perception of light only.

8. *Iridectomy incomplete* in nine cases; one suppurated; in one the lens was delivered in capsule; in one there was slight catarrh; in one the section leaked; and five made an uninterrupted recovery. Vision = M.B.E. at from one to two metres in three cases, from 2·5 to three metres in three cases, six metres in two cases, and 0 in one case.

9. *Iridectomy after delivery of lens* in eight cases; all of these were very nervous patients who squeezed out the lens as soon as the section was completed and so gave no chance of doing the iridectomy in its usual order; three made an uninterrupted recovery; two had slight catarrh; one had prolapse of the iris, calling for subsequent excision; one had an escape of vitreous; and in one the flap slid down and there was slight keratitis. Vision = M.B.E. at from one to two metres in four cases, and from 2·5 to three metres in four cases.

10 *Involuntary iridectomy during section* in 19 cases. In three the chamber was very shallow; in one a sudden movement of the patient caused the escape of the aqueous and the iris had to be transfixed in order to introduce the knife across the chamber; and in 15 cases the patient would not look down at all or else made sudden upward movements during section. Six cases recovered without interruption, four had slight catarrh, in three tags of the iris prolapsed, in three there was hyphæmia, in one the section leaked, in one vitreous escaped, and one suppurated. Vision = M.B.E. at from one to two metres in eight cases, from 2·25 to three metres in six cases, 3·5 metres in two cases, and six metres in one case. Fingers were seen at one metre in one case and there was no vision in one case.

11. *Section too small* in 10 cases; in one case the section had to be enlarged and there was subsequent keratitis; in two cases the sections leaked; four made an uninterrupted recovery; two suppurated (the vectis was used in one); and one had escape of vitreous and subsequent irido-cyclitis. Vision = M.B.E. at from one to two metres in six cases, 3·5 metres in one case, and 0 in three cases.

12. *Laceration of the capsule was difficult* in five cases; in three it was lacerated with the knife (in one of these the whole of the iris was caught and torn away by the irrigating scoop owing to a sudden movement of the patient at a time when an unskilful assistant had neglected to keep a stream of water flowing through the nozzle), and in one the lens was delivered in its capsule. Vision = M.B.E. at from 2·5 to three metres in three cases, fingers at two feet in one case, and 0 in one case.

13. *Failure to lacerate capsule* in six cases; in one vectis delivery, with slight escape of vitreous, and subsequent keratitis; in one vectis delivery of a tremulous dislocated lens with loss of one-sixth of vitreous; and in four tremulous lenses delivered by manipulation. Vision = M.B.E. at from 1·75 to two metres in three cases, 3·5 metres in one case, and fingers could be seen at two metres in one case and no vision in one case.

14. *Capsule removed by aid of forceps* in 26 cases; 15 cases made an uninterrupted recovery; two had keratitis; three had slight escape of vitreous; three had slight congestion of the conjunctiva; and in three the section did not unite for two or three days. Vision = fingers at from one to two feet in two cases; = M.B.E. at from one to two metres in 15 cases, from 2·5 to three metres in six cases, 3·75 metres in one case, and six metres in two cases.

15. *Irido-dialysis* due to violent movements of the patients in five cases; in one the whole iris was torn out; there was a large escape of vitreous and severe hæmorrhage. The patient made an easy recovery with only perception of light. In four the detachment was only partial, one had slight escape of vitreous with subsequent prolapse of the iris and one had slight keratitis. Vision of the four = M.B.E. at one metre in one case, 1·5 metres in two cases, and 3·5 metres in one case.

16. *Cornea inelastic* in four cases; they all made uninterrupted recoveries and vision in all four cases was M.B.E. at 1·5 metres.

17. *Hyphæmia as a result of operation* in 13 cases; four occurred in patients who made violent movements during iridectomy; all did well. Vision = M.B.E. at from one to two metres in nine cases and from 3·5 to four metres in four cases.

18. *Loss of vitreous* in 10 cases; in three the vectis was employed; in one the section was enlarged, the patient being very restless during the operation; in two the patient squeezed the eye violently; in one the patient made violent movements and entire irido-dialysis resulted; and in three there was slight irritability of the eye during recovery. Vision = M.B.E. at from one to two metres in five cases, at 2·5 metres in one case, perception of light only in three cases, and fingers at two metres in one case.

19. *Knife introduced wrong way up* in one case; it was removed and reintroduced and the patient made an uninterrupted recovery. Vision = M.B.E. at 1·5 metres.

20. *Knife entangled in iris and had to be withdrawn and reintroduced* in three cases; in one a capsulotomy had to be done subsequently. Vision = M.B.E. at from one to two metres in two cases and three metres in one case.

Complications in the after-treatment of the cases.—(1) Prolapse of the iris occurred in 25, or 5 per cent.; (2) keratitis in 56, or 11·2 per cent.; (3) leaking of section in 49, or 9·8 per cent.; (4) mal-apposition of the flap in 5, or 1 per cent.; (5) suppurative keratitis in 6, or 1·2 per cent.; (6) suppurative iritis in 5, or 1 per cent.; (7) panophthalmitis in 3, or 0·6 per cent.; (8) severe iritis (possibly septic) in 5, or 1 per cent.; (9) subacute iritis in 9, or 1·8 per cent.; (10) hæmorrhage into the anterior chamber in 20, or 4 per cent.; (11) cystoid cicatrix in 1, or 0·2 per cent.; (12) bulging section in 1, or 0·2 per cent.; (13) section burst by patient in 6, or 1·2 per cent.; (14) pterygium congested in 3, or 0·6 per cent.; and (15) spasmodic entropion in 2, or 0·4 per cent.

1. *Prolapse of the iris* occurred 25 times, or in 5 per cent. The 500 cases may be divided into two groups: (*a*) those operated on with iridectomy, numbering 484; and (*b*) those operated on without iridectomy, numbering 16. In group (*a*) prolapse of the iris occurred 21 times, or in 4·33 per cent.; and the prolapse was abscised 12 times, or in 2·48 per cent. In group (*b*) prolapse of the iris occurred four times, or in 25 per cent.; and the prolapse was abscised three times, or 18·75 per cent.

N.B.—The percentages are calculated on the totals of each group. The very high ratio in the second group is due to the fact that these are almost all cases in which the patient was troublesome at the time of operation and so iridectomy could not be done; several of them expelled their lenses by violent squeezing as soon as the section was completed. Such a series will of course give a high prolapse rate. The symptoms of prolapse in the cases of combined operation were never as severe as those met with after the simple operation, and the abscission of the impacted tag of iris was a comparatively safe procedure. All the four cases in which prolapse occurred after the simple operation did well and had good vision, but it is to be remembered that the series is a very small one. Of the 21 cases of prolapse of tags of iris after the combined operation 19 recovered with good vision and two could only count fingers at one metre; there were other complications in both these cases.

2. *Keratitis* occurred in 56 cases, or 11·2 per cent. This was mostly of a mild type and in no way influenced the course of the case. In 48 cases the patients had excellent vision, in seven cases they could only count fingers at from

one to two metres, and in one there was only perception of light. The last-mentioned case was complicated with iritis; of the seven cases one had a large central opacity of the cornea before operation, one was complicated with iritis and iridotomy gave a good aperture, and five were steadily clearing on discharge, and as the eyes were otherwise quiet and beds were needed they were discharged to attend as out-patients and were not again tested. It is probable that they all recovered good vision.

The question arises as to whether the irrigation of the anterior chamber was responsible for the poor result in these cases. I certainly do not think so, but in any case before considering this point we must eliminate the two cases with iritis and two others—viz., one in which a vectis was used to effect delivery and one in which a large lens was with difficulty squeezed through a narrow section. This leaves less than 1 per cent. of poor results to be set down possibly against irrigation; the possibility is not, I think, a probability. I believe irrigation to be an absolutely harmless procedure.

3. *The section remained open* for several days in 49, or 9·8 per cent. In one case it remained open two days; in three cases it remained open three days; in 12 cases it remained open four days; in 12 cases it remained open five days; in three cases it remained open six days; in 10 cases it remained open from seven to nine days; in two cases it remained open 12 days; in one case it remained open 16 days; and in three cases the time is not marked—total, 47 cases, all of which did well. The remaining two cases suppurated; in one the section was ununited on the fourth day and then suppuration set in; there had been slight congestion before operation; the other case had normal conjunctiva before operation; the section remained open till the fifth day, then closed, and the eye was doing well when the patient had a sudden attack of violent diarrhœa on the tenth day which ended fatally on the eleventh day; the cornea looked well till the diarrhœa set in and then suppurated, apparently as the result of the exhausting complication. The fatal termination was due to an intercurrent disease which was unconnected with the operation. The loss of one eye only must be debited to "leaking section," a percentage loss of 0·5.

4. *Mal-apposition of flap* occurred in five cases; it was well replaced in three cases; this complication was met with in patients with an inelastic eye, or in those who gave a good deal of trouble at the operation, hampering the toilet of the wound. Vision was good in four cases and poor in one.

5 to 8. *Inflammations of septic or presumably septic type* have been already dealt with under the heading of Pre-operative Conjunctival Complications. It is, however, to be remembered that it is very difficult to eliminate suppuration in a country where the patient deliberately raises the bandage and rubs his eye; many of the more ignorant natives look on the surgeon as a man whose "fads" are to be "dodged" if possible.

9. It is hard to localise the cause of the *slighter forms of iritis* in people, many of whom can give no past history of their life. Six of the nine cases recovered with useful vision, while three could only succeed in counting fingers.

10. *Hæmorrhage into the anterior chamber;* this occurred in 20 cases and may probably be put down in every case to the patient rubbing the eye. The results were good in all, but it is likely that a subsequent capsulotomy would have been an advantage in many of them; the patients would not think of waiting for this. The same remarks apply equally to the six cases in which the section was burst by the patient.

11. In one case the *section became cystoid* and as pressure by bandages failed to relieve the condition the bulging section was freely cut away; the incision then healed soundly with good vision.

12. The section continued to bulge in one case till the wound was reopened and a bead of vitreous let out. This was done on the fourteenth day and the wound at once united. This was not a case of cystoid cicatrix; the hyaloid, presumably under external muscular pressure, pushed the section open and bulged through.

14. *The congestion of pterygia* never led to any serious results in this series.

15. *Spasmodic entropion* occurred in two cases, in old people with relaxed lids; in both cases it set up keratitis; the bandages were at once removed, with speedy relief of the symptom; one got good, and the other poor, sight.

Capsulotomy was performed in 11 cases. It was done with two needles a month after the operation and when the eye was quite quiet. Good vision was obtained in all cases. In an experience of 2000 extractions I have never seen any trouble follow this little operation so far as I can recollect, and I have performed it whenever I found it to be necessary. Iridotomy was reserved for a less tractable class of cases; it was done twice for blocked pupil following iritis, with poor results; twice for the results of prolapse of the iris, with one good and one poor result; once for the purpose of establishing a pupil in a case in which the iris was drawn upwards after an escape of vitreous with a good result; and once to restore vision in a case of much thickened capsule, with a good result.

Nature of Cataract.

Nuclear	106
Cortico-nuclear	326
Morgagnian	59
Shrunken cataracts	3
Soft	5
Post-polar	1
Total	500

The number of cases in which the irrigator was used was 460 and the number of cases in which the irrigator was not used was 40—total, 500.

N.B.—In a few cases the irrigator was not used either because the chamber was clear and the iris in good position or because a minimum of interference with the eye was indicated. The bulk of the 40, however, were performed before the irrigating apparatus was available.

Visual results after operation.—Spheres only were used and the patients were tested with miniature bull's eyes (M.B.E.) at distances from one to six metres. A vision of M.B.E. at six metres equals $\frac{6}{18}$ vision by types or rather more. This result has been obtained by careful comparative experiments with educated patients. The cases were tested on discharge as it is impossible to test so many cases except by strict routine. A percentage were got hold of later and re-tested and none of these had degenerated in vision after the testing, while many had improved greatly.

Visual Results.

Could count fingers from 1 foot to 2 metres	17	or	3·4	per cent.
Counted M.B.E. at 1 to 2 metres	260			
,, ,, 2·25 ,, 3 ,,	107			
,, ,, 3·25 ,, 4 ,,	44	,,	91·4	,,
,, ,, 4·25 ,, 5 ,,	15			
,, ,, 5·5 ,, 6 ,,	31			
Good vision in a child too young to apply any test	2	,,	0·4	,,
Vision perception of light or *nil*	24	,,	4·8	,,

Near Vision.

Could not count Jaeger's type dots, but counted fingers	17
Counted No. I. Jaeger dots	69
,, No. II. ,, ,,	31
,, No. III. ,, ,,	11
,, No. VI. ,, ,,	132
,, No. VIII. ,, ,,	102
,, No. X. ,, ,,	102
,, No. XII. ,, ,,	5
,, No. XIV. ,, ,,	5
Child could not read, so untested	2
No vision or only perception of light	24
Total	500

The following is an analysis of the causes of poor vision in the 17 cases: subacute iritis, three cases, counted fingers at from one to six feet; cases necessitating an iridotomy, three, counted fingers at from one-half to two feet; keratitis, seven cases, counted fingers at from one to six feet; prolapse of iris (secondary operation), one case, counted fingers at three feet; inelastic eye with mal-apposition of section, one case, counted fingers at three feet; and pupil blocked with absorbing cortex at the time of discharge, two cases, counted fingers at three feet.

The following is an analysis of the causes of failure. Panophthalmitis occurred in three cases, or in 0·6 per cent.; suppurative iritis occurred in five cases, or in 1·0 per cent.; suppurative keratitis occurred in six cases, or in 1·2 per cent.; severe iritis occurred in five cases, or in 1·0 per cent.; secondary changes associated with black cataract occurred in four cases, or in 0·8 per cent.; and large escape of vitreous in one case, or in 0·2 per cent.—total, 24 cases, or 4·8 per cent.

N.B.—Of seven black cataracts operated on, one counted

fingers at one metre, one counted M.B.E. at 1·5 metres, and five were not improved by the operation, the failure being due to iritis in one case and to secondary changes in the coats of the eye in four cases.

I have refrained from commenting on this series as far as possible, leaving the facts to speak for themselves, and delaying remarks till after the publication of 300 more cases. It would, however, be an act of discourtesy to Professor McKeown of Belfast if I omitted to acknowledge the debt I owe him for allowing me to witness his method of using the irrigating apparatus which bears his name and which has since given me the best results I have yet had in cataract extraction. The irrigator has reduced the vitreous losses of this series to 2 per cent.; by emptying the capsule and chamber of débris it has minimised the need for subsequent capsulotomy and has enabled me to dispense with the introduction of instruments into the eye after the escape of the nucleus; it has been of great value in clearing the chamber of blood, &c., and so facilitating the subsequent steps of the operation in a class of cases which otherwise are liable to prove hazardous; by gently and evenly replacing the iris (even when impacted in the edges of the section) it has been most valuable, and it has expedited recovery inasmuch as it left behind so little cortex to be absorbed. Finally, it has enabled me to operate fearlessly on a large number of very immature cataracts which, before using it, I could not have ventured to interfere with. Against these marked advantages I know of no disadvantage which it possesses.

Madras.

TAPE-WORMS AS A POSSIBLE CAUSE OF DIABETES.

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THE two cases which I now describe, in which tape-worms were found to be associated with glycosuria, have led me to suppose the possibility of the existence of a direct connexion between the worms and the disease in question.

CASE 1.—A man, aged 50 years, came to me on March 28th, 1901, at the Manchester Workhouse, Crumpsall, complaining of passing tape-worms, segments of which he had found for some weeks previously. He complained of nothing else except that he was losing flesh. On examination the lungs were found to be the seat of early phthisis and the liver to be enlarged. The specific gravity of the urine was 1035 and its reaction was acid; there were a trace of albumin and a large quantity of sugar. The man passed on an average 80 ounces of urine per diem and each day it contained a large quantity of sugar which was detected by Fehling's test and by the fermentation test. The patient was treated in the usual way with filix mas for the tape-worms, segments of which were evacuated, but the head of the worm could not be found. I put him on a diabetic diet and gave him pancreatic extract. He gained flesh and the sugar passed per diem became less in quantity but it was never altogether absent. In June and September he again passed segments of a tænia solium and on each occasion he was treated with filix mas but the head of the worm was never discovered on either occasion. On Oct. 7th he died and at the necropsy the liver was found to be considerably enlarged with a tendency to cirrhosis. The pancreas was apparently normal but was not examined histologically and the lungs were the seat of tuberculosis.

CASE 2.—A man, aged 40 years, was admitted into the District Infirmary, Ashton-under-Lyne, on Oct. 8th, 1902, with gangrene of the big toe. His previous health had been very good but according to his own statement he had been troubled during the last three years with tape worms. The specific gravity of the urine was 1035 and its reaction was neutral; there was no trace of albumin but a large quantity of sugar. The man passed on an average 90 ounces of urine per diem and had a slightly increased thirst. It was decided not to amputate the leg, so on the 17th the patient returned to his home.

The theory which occurred to me was that the head of the tape-worm might very possibly get into the pancreatic duct and become well fixed to the wall by means of its hooklets and through the inflammatory change which it would produce cause an occlusion of that duct. We know that extirpation of the pancreas brings on glycosuria in animals owing to the absence of the internal secretion the presence of which is necessary in order that the normal assimilative processes can take place with the glycogen. If the duct be occluded, no doubt the gland will in time atrophy and so become useless. This would then exhibit the same condition as if it had been extirpated. I am well aware that it may be considered rash to advance such a theory on so little evidence, but I can quite see the possibility of the symptoms of diabetes, which in the two cases above were only discovered on examining the urine, being overlooked unless such an examination had been made; and I take it that not many practitioners who are treating cases of tape-worms would examine the urine of those patients for sugar without some subjective indications for so doing.

Ashton-under-Lyne.

CASE OF A LARGE DERMOID CYST COMPLICATING LABOUR.

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I RECORD the following case as being very uncommon and of unusual interest, more especially from the fact that the patient enjoyed "splendid health" all through the pregnancy and that the presence of the cyst was quite unsuspected and in the absence of symptoms was, I venture to think, absolutely undiagnosable. As regards previous history the patient commenced to menstruate at the age of about 15 years and was always "quite regular." One miscarriage occurred about three months after marriage. Coitus was always attended with pain.

I was summoned to attend a primipara, aged 27 years, on the evening of Sept. 21st, 1902, who was said to have been in labour since the morning. The pains were not strong, the os was dilating slowly, and the head could be felt presenting apparently in the left occipito-anterior position. As the pains continued feeble and the os was dilating very slowly I left. The pains gradually passed off and the patient slept through the night. On my visit next morning about midday (I had not again been summoned) I was informed that the labour pains had again started about 11 A.M. On examination per vaginam I found very little difference in the size of the os. She was visited at intervals of a few hours during the 22nd and although by the evening of that day the os was fully dilated and the pains were very severe no progress seemed to be made by the head. After consultation with Mr. J. Butler it was decided to administer chloroform and to deliver with forceps (the membranes had been ruptured previously). The forceps was introduced comfortably and with no difficulty and traction was made in the direction of the axis of the brim, but it was noticed that notwithstanding the traction the head did not budge in the slightest. On releasing the traction momentarily, without any warning there appeared extruded from the vulva a cyst rather larger than the fœtal head and attached by a long pedicle. The question now arose, What was this? was it a cystocele? A catheter was passed and the urine was drawn off but the swelling did not diminish and a pedicle could be felt attached. Was it a degeneration of the amnion? for it was dotted about with hard masses somewhat resembling yellow elastic tissue. As there were prolapse of the funis and some hæmorrhage the question of placenta prævia was even entertained but the insertion of the cord could not be felt and the tumour was too cystic. After consultation it was decided to remove the forceps and to puncture the cyst. This was done and a thick, green, pultaceous material was extruded. An incision was now made and a large quantity of matted hair was removed. The empty cyst with its long pedicle was brought down and retained outside the vulva by means of a ligature. The forceps was again introduced and the child was easily delivered (dead) with the placenta which followed a few minutes later. As the pulse was at this time 120 the patient was kept under observation for two hours and $\frac{1}{100}$th of a grain of ergotinin was given hypodermically before our departure. The removal of the cyst was now the question.

Dr. Robert Boxall, assistant obstetric physician to the

Middlesex Hospital, kindly came in consultation and after removing a few clots from the uterus, the pedicle, which was at first thought to emerge from the uterine cavity, was found to be coming through a rent in the left side of the cervix. The fœtal head had during traction with the forceps forced the cyst from within the peritoneal cavity through the cervical wall. Owing to the extreme collapse it was not thought advisable to administer an anæsthetic and to stitch up the rent but to bring down the pedicle through the rent and to trust to natural adhesions forming. The pedicle with the cyst was accordingly brought well down and clamped, the distal portion of the pedicle and the empty cyst were removed, and the clamp was left on for 48 hours.

On the 24th the temperature and pulse-rate were as follows: at 10 A.M. temperature 101·8° F. and pulse-rate 120; at 3 P.M. temperature, 102° and pulse-rate 140; and at 10 P.M. temperature 103° and pulse-rate 140. On the 25th they were as follows: at 10 A.M. temperature 103·8° and pulse-rate 140; at 3 P.M. temperature 104° and pulse-rate 160; and at 10 P.M. temperature 104° and pulse-rate 160. On the 26th they were: at 10 A.M. temperature 104° and pulse-rate 160; at 3 P.M. temperature 104·8° and pulse-rate 160; and at 10 P.M. temperature 104·8° and pulse-rate 180. On the 24th there were some abdominal distension and tympanites with tenderness and by the 25th the distension and tympanites had increased but the pain and tenderness had diminished. Vomiting was a troublesome symptom, with constipation. The bowels were not relieved till the 24th, when in view of the peritonitis half a drachm of sulphate of sodium, one drachm of sulphate of magnesia, a sufficient quantity of infusion of gentian, and 20 minims of spirit of chloroform were given every hour till the bowels acted, which when once open continued to act till death on the sixth day from peritonitis. The temperature or pulse never came down and delirium was present on the evening of the fifth day and throughout the sixth day, with muscular twitchings of the face and involuntary movements of the right arm. There were no rigors. The kidneys acted well throughout, from 10 to 15 ounces of urine being drawn off twice daily with the catheter. Unfortunately a post-mortem examination was not obtainable.

"Dermoids have never been found growing primarily from any abdominal viscus save the ovary" (Bland-Sutton). They are more often bilateral than unilateral and it is more than probable that the right ovary may also have contained a cyst, and assuming that to have been the case it would have been much bruised and readily have suppurated and account in a great measure for the early termination of the case fatally.

Herne-hill, S.E.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON NITROUS OXIDE GAS, AIR, AND CHLOROFORM AS A MIXTURE.

BY TOM BIRD, M.A. OXON., M.R.C.S. ENG.,
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SINCE the time that the late Mr. Clover introduced the administration of nitrous oxide gas as the useful preliminary to the exhibition of ether this combination, notwithstanding its drawbacks, has taken a firm hold not only with the profession as a body but also with specialists in the subject. There are a few, however, who, with Professor J. Simpson, hold the opinion that chloroform is superior to ether as a substance for producing insensibility. Professor Simpson arrived at his conclusion after some months' experience of chloroform, having become dissatisfied with ether, and after 40 odd years of personal administration I find it impossible to differ from him; I have never met with a case in which I would not give chloroform, but many cases in which I have abstained from giving ether. The medical profession has committed itself to the opinion that chloroform is more "dangerous" than ether. Any operation may be accounted dangerous in the hands of an unskilful surgeon; yet surely the blade of the scalpel is only more "powerful" than its own haft, or a raspatory. To seek safety in the substance is as futile as it is to expect it in the patient; this was shown in the case of dichloride of ethidene, the "chosen one" of the committee of the British Medical Association which was elected for the purpose of finding a safer substance than either ether or chloroform.[1]

Various mixtures have been suggested and tried from time to time; theoretically inviting, they have in practice been found wanting in safety, and I am only tempted to put one more before my *confrères* because it is fairly simple in administration and in my own experience of it, now extending over 20 years, has given me uniform results and no unpleasant surprises. It is intended for short operations and the introduction of chloroform pure in cases where it is desirous of producing quickly cerebral unconsciousness. I have produced insensibility in an old patient over 80 years of age twice in one week, the patient leaving the chair quite comfortably on each occasion, without delay or discomfort, on the stoppage of the bleeding. I find it less trying to the system than pure nitrous oxide "gas" and more certain and more prolonged than "gas" and air. The return to consciousness is very quick—often almost too abrupt—and I have not yet had the complaints, advanced after nitrous oxide gas, when too much time has been expected from it, by either the operator or the patient. A Wolf's bottle, such as is ordinarily used for administering chloroform, is fitted to the tube conveying the "gas" from the cylinder to the bag attached to the ordinary face-piece, the object being to mix as minutely and intimately as possible the nitrous oxide gas, the air, and the chloroform. An expiratory valve is the only one I ever use and that is incomplete. Some years ago I was consulted by a surgeon who was desirous of tapping a pericardium in a patient with advanced Bright's disease, double pneumonia, pleuritic effusion in both cavities, and a feeble running pulse; 19 ounces of fluid were taken from the pericardium. I gave chloroform as the least likely to disturb the equilibrium so lightly held together. The operation was successful, but to-day I should give nitrous oxide gas, air, and chloroform.

It was during my first year at the Dental Hospital that I found incidentally how very little ether vapour was required for certain definite effects. I then experimented with many mixtures put into the cylinders of nitrous oxide gas before the "gas" itself. These gave more curious results still, but the chief lesson learnt was the small amount of vapours required. There were many reasons, into which I need not enter in this paper, why I gave up those cylinders in favour of the mixture of nitrous oxide gas, air, and chloroform just described.

Brook-street, W.

A CASE OF LIGHTNING STROKE IN THE TRANSVAAL.

BY ALFRED P. B. ELLIS, L.S.A.,
LATE CIVIL SURGEON, SOUTH AFRICAN FIELD FORCE.

THE following particulars of a case of lightning stroke may prove of interest.

In the early part of November, 1901, a column was resting at Great Oliphant's Nek in the Transvaal, when a thunderstorm of great severity burst over the country. A non-commissioned officer was sleeping with three other men in a tent, when suddenly an electric discharge killed his companions. The man experienced what he described to me as a "throbbing burning" pain in his right elbow and "pin and needle" sensations extending "down the thigh and leg of the same side and lasting a few minutes." He then for half an hour lost the use of his arm and leg, but consciousness never left him. The patient's wounds were dressed and he was taken to Middleburg Hospital. He was ultimately admitted under my charge into the surgical section of No. 22 General Hospital, Pretoria, on Nov. 19th.

On examination I discovered an extensive granulating ulcer on the outer surface of the right elbow and on the outer surface of the right thigh concentric punched-out

[1] As I am writing this paper I have received the Journal of the British Dental Association with the account of "somnoforme," read at the annual general meeting held at Shrewsbury and also a later communication wherein its name is changed to "soemnoform." At present one can only say that it is a very unstable mixture and that the administration adopted is very unscientific. Safety cannot be guaranteed with either chloride of methyl or bromide of ethyl. With regard to the exclusion of air Snow has it, "Insensibility is not caused so much by giving a dose as by performing a process."

looking scars, five on the outer surface of the leg, one over the external malleolus, and one over the ball of the little toe. They varied in size from a half-crown to a three-penny-bit. The scars corresponded to 16 exactly circular "pinhead" perforations in his riding breeches and socks. There was a mere trace of charring at the periphery of the punctures. There was neither anæsthesia nor atrophy of the muscles. The knee-jerk reflex was absent on the affected side, but the other reflexes were normal. There was no reaction of degeneration. Pressure over the brachial plexus and over the great nerves in the upper part of the arm elicited a feeling of "electric shocks" and visible tremors of the whole limb. There was no result on applying similar tests to his leg. Four times a day for the previous fortnight at regular intervals the patient had an attack of "tremors" in his right arm and leg which lasted for fully five minutes. He complained of no pain during these attacks but said that he had a feeling of loss of power. The attacks suddenly ceased. The patient had no trouble throughout with his bladder or rectum. He was under my charge for about 16 days, during which time no special treatment was given beyond the ordinary rules of dietary and rest in bed for a few days. He made a complete recovery and was sent to England on a hospital ship.

Gudaspur, Punjab.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

GREAT NORTHERN CENTRAL HOSPITAL.

A CASE OF LATENT ANEURYSM OF THE AORTA, THE FIRST SYMPTOMS BEING THOSE INDICATIVE OF RUPTURE INTO THE SUPERIOR VENA CAVA.

(Under the care of Dr. H. W. SYERS.)

ABNORMAL communications between arteries and veins are rare. When venesection was extensively practised it was not very unusual for the brachial artery to be punctured by the lancet used for the phlebotomy, and thus an arterio-venous aneurysm was formed, but this form of injury is now never met with. Practically most of these arterio-venous aneurysms arise without traumatism. A communication between the aorta and the superior vena cava is one of the rarest forms. Dr. F. Sibson analysed nearly 800 cases of aortic aneurysm and only seven of these had ruptured into the superior vena cava. A case in many ways similar to that described below was under the care of Dr. W. Ewart and was published in THE LANCET in 1889.[1] In that case when venesection was performed for relief of the venous obstruction the blood escaped in jets as from an artery.

The patient was a man, aged 42 years, married, who was admitted to the Great Northern Central Hospital on July 19th, 1902. There was a somewhat doubtful history of syphilis. Last winter he had suffered from "swollen glands" on the left side of the neck for about a week and at the same time he noticed that the left arm was swollen and blue. The swelling of the arm was not attended with pain and both it and the neck trouble disappeared at the same time. For about a month before admission the patient had suffered from cough, especially in the morning. He had expectorated blood-stained mucus which he thought came from the back of the throat. Otherwise he felt quite well until the day of admission. At 7.40 P.M. on this day, while at his work, he suddenly felt a determination of blood to his neck and face; he described it as a sensation of "blood rushing" in the direction indicated. At the same time there was a feeling "as if someone was strangling him." This latter sensation had persisted since. There was no nausea, vomiting, giddiness, or pain. On admission the patient was in an extremely distressed condition. In bed his head was kept low, but he was very restless and vaguely uncomfortable. The face was congested and the ears and lips were cyanosed. Over the upper part of the chest was a network of dilated veins, and around the body at the level of the sixth ribs was a very well-defined sheet of dilated capillaries practically surrounding the body. The veins of the right arm were much more prominent than those of the left. The chest was somewhat emphysematous. The heart's apex beat was in the fifth interspace, the maximum impulse being just within the nipple line. The impulse was distinctly heaving. No thrill could be detected at the apex. At the second right interspace for about one and a half inches beyond the right edge of the sternum a distinct impulse was visible and over the area of pulsation a very slight systolic thrill could be detected. The cardiac dulness was not clearly defined owing to the emphysematous condition of the lungs, but there appeared to be an increased dulness upwards extending to the third rib. Near the area of pulsation in the second right interspace the percussion note was distinctly higher-pitched than on the opposite side, but could not be described as absolutely dull. At the heart's apex a faint systolic murmur was audible but it was not conducted towards the axilla. At the apex the second sound could be heard but only faintly. All over the region of the base of the heart two loud, rough murmurs were distinctly audible, so that there was no interval of silence but a continuous or "circular" murmur. Both systolic and diastolic murmurs were practically equally loud and both were most distinctly to be heard over the area of pulsation already more than once referred to.

From what has just been said it will be obvious that the aortic second sound was entirely absent. At the lower end of the sternum both murmurs were faintly audible and the systolic murmur could also be heard over the vessels of the neck. Neither murmur could be detected in the back. The pulse was beating 96 to the minute and the wall of the radial artery appeared to be healthy. There was no difference as regards the strength or rhythm of the radial pulse on the two sides. The breath sounds were heard over the whole of both lungs and especially was this so at the right apex. The throat was somewhat reddened and a little dry blood was clinging to the back of it. The patient thought that his voice had changed somewhat during the present illness, being rather hoarse. There was no œdema of the lower extremities. The pupils were equal and contracted normally to light. Ophthalmoscopic examination gave negative results. The urine was healthy. During the first few days after admission there was much complaint of headache and occasional vomiting troubled the patient. He was restless, constantly changing his position in search of ease. Ten days after admission it was noticed that the face was distinctly swollen and there was also swelling of the right side of the neck. He complained much of a feeling of constriction in the neck and this was considerably relieved by venesection to 18 ounces from the left arm. But the swelling remained as before. The dilated veins were now more marked over the chest and swelling of the right hand was noticed. During the past few days slight hæmoptysis supervened and the œdema of the face became more marked. Some œdema of the conjunctivæ was now perceptible. The hæmoptysis continued but not to a severe extent; he slept badly and again became very restless both by day and night. About three weeks after admission it was first noticed that the pulses were distinctly unequal, that of the right radial being much less full than that of the left, and the pupils now became unequal, the right being smaller than the left. The œdema of the face and neck had steadily increased and a very marked and progressive œdema of the front wall of the chest had supervened. The swelling entirely obliterated the pulsation, which had been previously noticeable over the second right interspace, and the least pressure with the stethoscope left a very distinct imprint on the chest wall. The venous engorgement of the anterior chest wall was much more prominent, giving a cyanotic tint to the skin of the chest generally on its anterior surface. During the next few days the swelling of the neck and face became still more evident, quite altering the features. The right arm, too, got steadily larger, pitting easily on pressure over its whole surface. There was much complaint of præcordial pain and rapidly progressive weakness supervened. Death occurred a month after admission. The temperature remained normal or subnormal throughout.

[1] THE LANCET, June 15th (p. 1184) and August 17th (p. 312), 1889.

Necropsy.—At the post-mortem examination it was found that the whole of the ascending and transverse portion of the aortic arch was the seat of fusiform dilatation, the enlargement of the vessel being most marked just above the aortic valves, where the vessel was practically globular in outline (see Figs. 1 and 2). The aortic valves were quite healthy, but did not meet in diastole owing to the dilatation of the vessel. The portion of the ascending arch which immediately follows the intra-pericardial segment of the vessel was the seat of a true aneurysm formed by the further yielding of a portion of the already greatly dilated aortic wall. This aneurysm presented forward and came in contact with the parietes of the chest at the point where pulsation was obvious during life—i.e., the second right interspace. At many points the wall of the aneurysm was extremely thin, being no thicker than ordinary writing paper. Where in contact with the superior vena cava one of these thinned patches had been the seat of ulceration which had led to perforation of the wall of the vessel, communication being thus established between the aorta and the superior vena cava and a varicose aneurysm resulting. The perforation was of about the size of a threepenny-piece, its edges were smooth and rounded, and it was surrounded by an area dark red in colour, the result clearly of severe local stasis. Many greatly thinned and degenerated areas were seen scattered over the surface of the dilated ascending and transverse aorta; there was scarcely a sound portion of the vessel to be seen over the whole surface exposed. The aneurysm and the dilated aorta generally contained post-mortem clot; laminated clot was wholly absent. Both ventricles were considerably dilated. There was no pressure on the root of either lung and none on the œsophagus or on any nerve. The abdominal aorta was in far better condition than was the thoracic portion of the vessel. The brachial and radial arteries were healthy. The liver was congested and showed changes of the "nutmeg" type. The kidneys were quite healthy.

Remarks by Dr. SYERS.—There can be no doubt from the history and post-mortem findings that in this case the onset of severe symptoms was the result of the catastrophe which had occurred on the evening of the day of admission. It will be borne in mind that on that evening, while engaged in his usual occupation, the patient suddenly experienced a feeling of blood rushing to the head and neck and a severe sensation of choking and constriction. Yet this most serious accident did not terminate fatally within a few hours, as might reasonably have been supposed. On the contrary, he lived a whole month, during which time the mechanical results of the abnormal communication between artery and vein became more and more noticeable. It is obvious that a most serious circulatory disturbance must have immediately ensued as the consequence of the lesion. For at each systole of the left ventricle a certain portion of arterial blood would pass through the orifice and enter the superior vena cava, the current of the intrusive arterial blood being directly opposed to that of the blood current in the vena cava. Again, during diastole blood from the vena cava must have passed into the aorta, interfering to some extent with the onward progress of the current in that vessel. Practically the outcome of these alterations in the mechanism of the circulation was to embarrass the venous circulation so far as that system was controlled by the superior vena cava. In other words, extreme swelling of the neck, of the face, and of the right arm, together with the cyanosed appearance of the territories affected, constituted the obvious outward and visible signs of that most serious lesion which existed almost at the fountain-head of life. It certainly seems extraordinary that life could be prolonged for so long a time as a month under such conditions. A case similar

FIG. 1.

A, Rod passed into the aneurysmal sac through the opening in the superior vena cava. B, Superior vena cava. C, Sac of the aneurysm.

FIG. 2.

The aorta opened from the front showing the situation of the aneurysm as regards the aortic valves. A, Sac of the aneurysm. B, Rod passed into the sac from the superior vena cava. C, Dilated and atheromatous aorta.

to the one under discussion is recorded in the second edition of the late Dr. Walshe's work on "Diseases of the Lungs, Heart, and Aorta," but in this instance death occurred on the tenth day from the onset of symptoms.

There are other points of interest connected with the history of this case. How came it that a condition of the aorta such as this gave rise to so few symptoms of ill-health until the perforation occurred? Surely the answer to this question is by no means plain or obvious. Beyond slight cough and expectoration, together with a transitory swelling of the left arm, no complaint had been uttered by the patient. He had continued at his work—that of an omnibus conductor, which is, indeed, not a heavy or laborious vocation, though yet requiring a certain amount of endurance and much standing—and still no symptoms pointing to the extremely serious disease which existed within the chest revealed themselves. It must be that the ventricular force was adequate to discharge the heart functions and more especially to overcome the obstacle to the circulation which was the result of the aneurysmal dilatation of the aorta. And from the position of the aneurysm it is clear that no pressure symptoms—those which in a large proportion of cases determine the fatal event—could occur. To these two causes I attribute the latency of the malady and the fact that the symptoms were really trifling in severity. But the same cause which was so efficient a factor in preventing the obvious physical signs and symptoms yet asserted itself in the end, for there can be no doubt that the actual perforation of the thinned and weakened aortic wall ensued as the result of the hypertrophy of the left ventricle. And this is the more surely the case from the fact that not under excitement or exertion and not from an unusual strain, but in the ordinary quiet discharge of his duties, did the rupture occur. He was giving out tickets at the time. I would call attention to the fact that the thoracic aorta, and this alone, betrayed evidences of the serious vascular lesion which lay at the root of the aneurysmal process. To the fact of the limitation of the disease process to certain portions of the arterial system I have repeatedly drawn attention, and assuredly it was most marked in the present instance. From the condition of the brachial and radial arteries in this patient it could never have been inferred that the aorta within the thorax was hopelessly diseased. And although the abdominal aorta could not be described as normal, yet its condition was wholly superior to that of the thoracic portion of the vessel.

This case very forcibly illustrates how very foolish it is to talk of the "cure" of thoracic aneurysm, whether by rest and restricted diet, by the administration of drugs such as iodide of potassium, or by electrolysis. The smallest reflection will show how futile such attempts must be, simply because the whole ascending and transverse arch of the aorta is profoundly and hopelessly disorganised. The complete cure of the aneurysmal sac in this case would most assuredly have been followed by the development of others, for the conditions necessary for the onset of aneurysm were present all over the aortic arch. Every one of the thin paper-like patches entirely wanting in elasticity would have been the starting-point of a further yielding of the already greatly dilated aorta. Such a case as this teaches us not to place any reliance whatever upon those methods which are so glibly described as essential to the cure of aneurysm of the aorta. The only conceivable condition in which such measures might possibly be of use would be that in which the atheromatous process is strictly limited, so that all the rest of the aorta is healthy, the aneurysm being the whole and sole lesion. I need scarcely say that this state of things is hardly ever met with and it is possible to attend post-mortem examinations for years without meeting with such a case.

Lastly, it is of some importance to note that the dyspnœa and discomfort from which the patient suffered, and which were the result of the pressure of the aneurysm upon the superior vena cava, and more especially of the abnormal communication between the two vessels—the aorta and superior vena cava—were always relieved by venesection. On several occasions he was bled to 15 or 20 ounces and invariably with temporary relief. This is only another instance of the great value of bleeding in many conditions in which venous engorgement arises, and it is really strange that this well-tried and valuable mode of treatment is so systematically neglected.

For the clinical notes of this case I am indebted to Dr. A. E. Carver, house physician, and to the kindness of Mr. Allan Hair in photographing the lesion of the aorta I owe the illustrations of the present article.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Some Cases of Streptothrix Infection.—Pathogenic Bacillus Coli in Ice-creams.—A Demonstration of the Micro-organisms found in London Air.—The Effect of Certain Metallic Salts upon the Growth of Micro-organisms.

A MEETING of this society was held on Nov. 4th, Dr. E. KLEIN, F.R.S., the Vice-President, being in the chair.

Mr. ALEXANDER G. R. FOULERTON read a communication on Some Cases of Streptothrix Infection. During the last two years five cases of the kind had been investigated bacteriologically at the Middlesex Hospital. The first case was that of a young man, aged 21 years, who presented an inflamed and indurated condition of the subcutaneous tissue of the front of the neck, following on a severe attack of tonsillitis. An abscess formed and the pus contained numerous yellowish white granules; a pure culture of the organism was obtained. The second case was that of a girl, aged 19 years, who came under treatment for an abscess of the left breast. On incising the abscess some fœtid pus escaped containing granules similar to those seen in the first case. Subsequent examination showed evidence of deep-seated mischief in the left side of the chest. From this case also a pure culture of the organism was obtained. The third case was that of a lad, aged 18 years, who whilst being treated in hospital for the results of an accident suddenly developed an abscess in the tongue. The pus of the abscess contained granules and in this case again a pure culture of streptothrix was obtained. In the fourth case the patient was a man, aged 39 years, who came under treatment for an empyema of the right pleural sac. A rib was excised and 50 ounces of fœtid pus were evacuated. The pus contained numerous whitish granules consisting of a typical ray-fungus, but in spite of the inoculation of a large number of culture tubes no growth of a streptothrix or of any other organism was obtained. The fifth case was that of a medical man who had a small abscess at the root of a lower canine tooth. In this case a culture of a streptothrix was obtained, no other organisms growing on the tubes inoculated. The organism isolated from the first two cases was that which had already been described in a case of extensive lung infection in a woman as streptothrix hominis (Foulerton). The organism isolated from the third case resembled somewhat that isolated from the first two, more especially in the difficulty of obtaining growth on any solid media; but there were differences which seemed to point to it really belonging to a separate species. The fact that no cultures were obtainable from the fourth case was probably due, Mr. Foulerton thought, to the organism being already dead. The empyema was probably of three months' duration and no young forms of the organism were seen in the pus. The organism isolated from the fifth case was a rather coarse streptothrix which grew freely on ordinary media and corresponded with streptothrix luteola which Mr. Foulerton had previously isolated from a case of conjunctivitis with sloughing of the cornea. It seemed clear that certainly the majority of the cases of actinomycosis in man were not caused by the common streptothrix found in the ox, but difficulties in the cultivation of many of the organisms found in human infection caused great confusion in the attempt to identify the species described by different writers.

Dr. KLEIN read a paper on the Pathogenic Bacillus Coli in Ice-creams. He drew attention to the fact that in several outbreaks of acute gastro-enteritis due to the consumption of particular meats the variety of bacillus coli known as bacillus Gärtner had been proved to be the real cause of the disease; but there had been other similar outbreaks of disease in which not the bacillus Gärtner but other varieties of bacillus coli were the cause; he referred to the Carlisle outbreak (pork-pie) described in the reports of the medical officer of the Local Government Board for 1889 and to the Portsmouth outbreak (meat-pie), described in the same reports for 1890. Quite recently Dr. Klein had found in certain samples of ice-cream sent for analysis

by Dr. W. Collingridge, the medical officer of health of the City of London, a highly virulent variety of bacillus coli which was certainly not bacillus Gärtner. Some of these ice-creams were made in shops which were under suspicion of having previously sold ice-creams that caused acute gastro-enteritis to a number of telegraph boys of the General Post Office. The virulent bacillus coli isolated in its action on rodent animals by injection and after ingestion, in its cultural and morphological characters, was described and demonstrated by specimens. The virulent bacillus coli was met with in a succession of samples made on different days by the same maker under very unsanitary conditions as to locality, manipulation, and storage. As soon as these unsanitary conditions became amended the ice-creams proved harmless to animals. This was an experimental confirmation of the correctness of the recently passed law as to the manufacture and sale of ice-creams.

Dr. F. W. ANDREWES exhibited Apparatus which he had employed in Investigating the Quantitative Distribution of Micro-organisms in the Air, together with a collection of cultures illustrating the bacteria found in London air. The apparatus was in principle that used by Frankland, the method depending on the aspiration of a known volume of air through a plug of powdered glass-wool and sugar in a narrow glass tube. The aspiration was carried out with a large brass syringe holding 420 cubic centimetres and fitted with a two-way nozzle and cock so that the requisite number of syringefuls could be aspirated without disturbance. The receiving plugs were later forced ont into Petri dishes containing the melted culture medium (gelatin or agar-agar), through which they were distributed. The colonies were counted on the fourth day and subcultures were taken. The details of manipulation were described and the accuracy of the method was discussed. The drawbacks were: (1) that composite colonies sometimes arose where two or more different bacteria adhered to the same dust particles and were liable to be counted as one; and (2) that certain organisms—e.g., the tubercle bacillus and probably streptococci—were not detected. But as a means of comparing different samples of air with reference to bacterial contamination the method was a useful and trustworthy one and had yielded very consistent results. The cultures exhibited embraced some 50 or more species characteristic of London air and included micrococci, sarcinæ, bacilli, streptothrices, and yeasts. No truly pathogenic organisms had been detected The determination of the species found was a matter of much difficulty and labour on account of the imperfect descriptions attached to many species and on account of the very variable characters presented by many of the air bacteria. The most important groups met with from a numerical point of view were the staphylococci, the sarcinæ, and the streptothrices and moulds. The bacilli found belonged to a large number of species, but the actual number of individuals fell far short of the micrococci.—Dr. KLEIN thought it strange that in air taken from the streets no bacilli coli were found.—Mr. S. G. SHATTOCK referred to a paper published by Miss Chick who had examined numerous samples of air in America and had been unable to find any bacilli coli.—Dr. ANDREWES, in reply to another question, stated that the number of organisms in the air varied enormously. In some of the samples he had taken he had found only two varieties of bacteria, but in the average sample of five litres of air about 50 varieties of organism were usually present. He stated that he had never found the bacillus coli though he had carefully looked for it.

Dr. D. N. NABARRO read a paper on the Effect of Certain Metallic Salts upon the Growth of Micro-organisms. The experiments were undertaken with a view to finding some medium upon which the bacillus typhosus would grow while the bacillus coli communis would not. He had not succeeded in finding such a medium. He had, however, obtained the following results. The effect of nickel chloride in broth on the bacillus typhosus and the bacillus coli was: (1) the growth of the organism was inhibited at once, and (2) was gradually killed, being dead by the eighth day. The effect of nickel chloride added to a gelatin media was very materially to inhibit the development of the bacillus typhosus, while it had only a slight retarding effect upon the growth of bacillus coli and no effect upon its production of gas. The effect of nickel sulphate added to broth completely inhibited the growth of the bacillus typhosus, while the bacillus coli grew quite well in such broth and was alive after six weeks. The effect of nickel sulphate was tried on various other organisms. The effect of copper sulphate was tried with the following result. Copper sulphate broth inhibited the growth of all the organisms tested (bacillus typhosus, bacillus coli, staphylococcus, streptococcus, bacillus pyocyaneus, bacillus prodigiosus, bacillus anthracis, bacillus proteus vulgaris, and bacillus subtilis). They were all killed in 14 days and some much earlier, except bacillus subtilis, which was found to survive an exposure of at least six weeks. Copper sulphate agar inhibited the growth of the following organisms completely: staphylococcus pyogenes aureus and bacillus subtilis. The following organisms grew on copper agar: bacillus typhosus, bacillus coli, streptococcus pyogenes, bacillus pyocyaneus, bacillus prodigiosus, bacillus anthracis, and bacillus proteus vulgaris; of these, bacillus coli, bacillus prodigiosus, and bacillus anthracis were alive after six weeks and the remainder were dead.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The first meeting of the session of this society was held on Oct. 29th, the President, Mr. W. B. Holderness, being in the chair.—Microscopical preparations illustrating various forms of Vascular Degeneration were exhibited, the specimens being kindly lent by Dr. G. L. Eastes.—A case of Rodent Ulcer was shown by Dr. G. E. Hale. The patient was a woman, aged 80 years, who had noticed a small pimple for 30 years; the rapid growth leading to the extensive ulceration seen had occurred only in the past three years.—Mr. T. H. E. Meggs showed a case of extensive Sarcoma of the Upper Jaw in a girl, aged 11 years. The eyeball and bony structures in the left side of the face were projecting.—Dr. W. F. Lloyd exhibited a case of Hemianopia.—A case of Aortic Regurgitation was shown by the President.—Dr. C. R. Elgood exhibited a case of Syphilitic Ulceration of the Leg.—Sir William H. Bennett gave an address entitled "Some Further Points relating to Varix of the Lower Limbs." The origin of the condition was discussed under three heads, congenital, acquired, and intermediate varix—the last being a form in which congenital varix becomes prominent in consequence of the same conditions existing as those producing acquired varix. The injurious effect of strain in growing subjects, especially girls, by excessive exercises was insisted on. In describing the various varicose areas in the limbs especial stress was laid upon an external femoral set of varicose veins which existed only in women as a rule, and were held by the speaker to be of great importance in relation to pregnancy and the venous troubles arising in connexion with it. After some interesting details concerning the periods of life at which varix was prone to increase the treatment was discussed under the heads of hygienic treatment, manual treatment (massage, &c.), and operative treatment. Great emphasis was laid upon the fact that varix which caused no trouble and which was not situated in dangerous regions required no treatment at all. The massage method was described and an account was given of the treatment by alcoholic friction. The methods of operating used by the speaker were described and in conclusion a warning was given of the necessity, before subjecting a patient to operation, of being sure that the symptoms complained of were due to the varix and not to something else.—A short discussion ensued in which the President, Mr. W. A. U. Thomson, Mr. J. H. Tomlinson, Mr. J. W. Gooch, and Captain F. S. Brereton, R.A.M.C., took part, and Sir William Bennett having replied the proceedings terminated with a hearty vote of thanks to him for his valuable and lucid address.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 23rd, Dr. J. Robertson, the President, being in the chair.—Dr. Arthur J. Hall showed the following cases: 1. A case of Congenital Jaundice in a girl, aged 13 years. The child was noticed to be jaundiced at birth and had remained so ever since. Except that she was backward in development, and especially in walking, she had always had good health and was now bright and intelligent. The conjunctivæ were deeply jaundiced, the urine contained a trace of bile pigment, and the fæces were fairly well coloured. This case was shown for Mr. H. A. Mason. 2. A case of Secondary Syphilis with severe headache, periosteal nodes on the forehead, roseola, adenitis, cachexia, pharyngitis, and laryngitis. 3. A case of Urticaria with well-marked dermographia. 4. A case of Disseminated Lupus, with lichen scrofulosorum and

patches of verrucous lupus. 5. An old man with extensive Rodent Ulcer of 30 years' duration in whom the right orbit and root of the nose were completely destroyed. 6. A severe case of Seborrhœic Dermatitis.—Mr. Simeon Snell related particulars of a case of Complete Avulsion of the Eyeball by Midwifery Forceps, and also of a case of Palsy of the Upward Movements of the Eyeball. He also introduced the following cases: (1) two cases of Unilateral Congenital Hypertrophy of the Eyelids and the Face; (2) a case of Acromegaly with binasal hemianopia; (3) two cases of Monocular Blindness following Fracture of the Skull; and (4) two cases of Symblepharon treated by Thiersch Grafts.—Dr. Godfrey Carter showed a case of Bilateral Clonic Spasm of the Facial Muscles. The patient's age was 68 years and he had been an engraver for the previous three years. As a young man he had had slight spasmodic torticollis. Two years since slight eczema of the eyelids came on and two weeks later spasmodic contraction of the orbicularis muscles began to cause discomfort and the condition had gradually become worse since. The upper facial muscles were involved in the spasm and also the zygomatici. When at close work all spasm ceased, but it was often so severe when out of doors that the eyes were completely closed and crossing a street was dangerous.—Dr. W. T. Cocking showed a case of well-marked Jaundice in a woman, aged 50 years, which appeared at the age of three weeks and had persisted until the present time.—Dr. Hall read a paper on Some Cases of Blue Discolouration of the Toes or so-called Cyanidrosis in which the staining was due to an aniline dye used in the manufacture of cheap black stockings. This was dissolved out by the acid sweat of the feet and stained the upper layers of the stratum corneum to some depth.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Oct. 29th, Dr. J. G. D. Kerr (Bath), the President, being in the chair.—After the reading of the treasurer's report Dr. Kerr introduced the new president, Dr. E. Symes-Thompson, who then took the chair.—Votes of thanks to the retiring president, the treasurer, the secretaries, and other officers of the society were passed.—The new President then delivered an address entitled "Far-away Climates." He prefaced his remarks with a history of the formation of the Scientific Committee on Baths and Climates appointed by the Royal Medical and Chirurgical Society at the suggestion of Sir Edward Sieveking and himself in 1889, and described the development of the Balneological and Climatological Society as a direct outcome of that committee. The foundations of scientific balneology in Great Britain were thus laid and balneo-therapeutics had gained a permanence and stability which empiricism had failed to give. It was shown that the British empire contained mineral springs and health resorts suitable for every form of constitutional defect. A variety of climatological details were given concerning a number of "far-away climates" and it was stated that geology, physiography, and meteorology form the basis of medical climatology. From Madeira and the Canary Islands the President passed to the consideration of Algiers and Egypt and thence by the Libyan Desert to Uganda, Nyassaland, and the Central and South African highlands to Rhodesia. Natal and Cape Colony received full attention and much practical information was given regarding the great subdivisions of the Australian continent. The description of New Zealand and Tasmania was particularly attractive. Ceylon and the Indian health stations received a passing notice and a valuable part of the address had reference to Florida, Nassau, the West Indies—especially Jamaica—and Brazil. The influence of climate on national character was shown to be a useful study as a guide for the selection of climate for individual patients—the flaccid, lymphatic type gaining benefit in an exhilarating and stimulating climate, whereas those who were already too keen, restless, and alert should be sent to soothing and calming regions.

CHELSEA CLINICAL SOCIETY.—The first meeting of the session 1902-03 was held on Oct. 28th at the Jenner Institute of Preventive Medicine, Grosvenor-road, S.W.—Dr. C. C. Gibbes, the President, delivered his opening address on the Effect of Pregnancy on Chronic Heart Disease and dealt with the subject under the following headings: (1) the physiological effect of pregnancy in the cardio-vascular system, giving a brief summary of the opinions now generally held; (2) certain pathological conditions that might be present as a result of pregnancy in a previously healthy woman; (3) the mechanism, complications, and prognosis of chronic heart disease apart from pregnancy; and (4) the effect of pregnancy on chronic heart disease and the treatment best adapted to those conditions. He first detailed the symptoms and prognosis in the different forms of chronic heart disease and then discussed the questions of miscarriage, induction of premature labour, abortion, lactation, and the treatment necessary during pregnancy, parturition, and the puerperium.

Reviews and Notices of Books.

A Treatise on Human Anatomy. By Various Authors. Edited by HENRY MORRIS, M.A., M.B. Lond. Third edition. London: J. & A. Churchill. 1902. Pp. 1326. Price 30*s.* net.

THIS book has become so widely known and has obtained so good a reputation for an accurate and exhaustive exposition of the subject that the issue of a third edition might be supposed to be merely a publisher's matter. The text of the work, however, has been carefully revised and there has been a large addition to the illustrations, whilst two sections have been considerably altered. The section of Osteology, originally written by Mr. J. Bland-Sutton, has received revision and some extension at the hands of Dr. Peter Thompson, lecturer to the Middlesex Hospital. The changes appear to be of advantage. Perhaps the one of most interest is to be found in the description of the temporal bone and in the adoption of a system of parti-colouring whereby the constituent elements of the bone both at birth and at a later stage are well shown. The value of the last of these figures is greatly enhanced by the fact that the bone is drawn in a partly dissected state. Had it been possible to place these figures on pages facing each other it would have been of still greater advantage.

The method of parti-colouring has been adopted in sectional drawings of the skull with considerable value.

The section on the Nervous System by Dr. Arthur Robinson has also been much improved, particularly in the portion dealing with the medulla and origins of cranial nerves. We are inclined to doubt the utility of such a drawing as that of Fig. 476, "A diagram showing some of the paths by which a sensory impulse may ascend from the spinal cord to the brain"; it is carefully done but is altogether too complicated for illustrative purposes; the scheme of sectional drawings in the last edition was preferable. For the same reason we regret the continued appearance of Fig. 341, showing the carotid arteries, which we judge to be valueless. The section on Vestigial and Abnormal Structures might with advantage be incorporated in the text of the main sections or else be considerably amplified; the brief notes on these structures seem almost lost in their present position. The work has been distinctly improved by the revision and should well maintain its reputation for usefulness.

A Manual of Surgery, for Students and Practitioners. By WILLIAM ROSE, M.B., B.S. Lond., F.R.C.S. Eng., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital; and ALBERT CARLESS, M.S. Lond., F.R.C.S. Eng., Surgeon to King's College Hospital and Teacher of Operative Surgery in King's College, London; Examiner in Surgery to Glasgow University. Fifth edition. London: Baillière, Tindall, and Cox. 1902. Pp. 1213. Price 21*s.* net.

ALTHOUGH only 12 months have elapsed since the appearance of the fourth edition of this work there have been many alterations made in order to render the present fifth edition representative of the surgery of to-day. Characteristic of modern surgical science is the fact that the first chapter deals with bacteriology, inflammation being made to take the second place. There is

naturally abundant material for criticism in a work dealing with the whole of surgery, but the views expressed are at all events those which are generally current among surgeons. In commenting on previous editions we have expressed very fully our high opinion of the value of the work, so that it is now unnecessary to say much. In only one particular would we venture to find occasion for regret. The book is growing, for this edition exceeds its predecessor in bulk; this is a natural tendency, but it should be strenuously combated in any work intended for students. We earnestly advise the authors to put a definite limit to the size of the volume and to delete old matter to make room for any new material which it is advisable to insert.

The Operations of Surgery, intended especially for the Use of those recently appointed on a Hospital Staff and for those preparing for the Higher Examinations. By W. H. A. JACOBSON, M.Ch. Oxon., F.R.C.S. Eng., Surgeon, Guy's Hospital; and F. J. STEWARD, M.S. Lond., F.R.C.S. Eng., Assistant Surgeon, Guy's Hospital and the Hospital for Sick Children, Great Ormond-street; Surgeon-in-Charge of the Throat Department, Guy's Hospital. Fourth edition. With 550 Illustrations. London: J. & A. Churchill. 1902. Vol. i., pp. 727; Vol. ii., pp. 776. Price £2 2*s*.

FOR the first time this work appears in two volumes. In order to compress the third edition into one volume a larger page and a smaller type had to be employed. These means have their limits and the further increase of the work which has been rendered necessary by the progressive increase in our knowledge has made a single volume impossible. With regard to its contents, the present issue is fully equal to the third edition. In the preparation of it Mr. Jacobson has had the assistance of Mr. F. J. Steward who is responsible for the revision of rather more than half the work. The plan remains unaltered. The subject is treated regionally and though this arrangement is not beyond criticism it is very convenient for practical use. Those to whom previous editions have been familiar will amongst considerable new matter recognise much that they have learned to value. The more the book is examined the greater will be the appreciation of the reader, and without wishing in any way to depreciate other works on the same subject we can confidently assert that this is the best general treatise on surgical operations in the English language. Very valuable features are the extensive lists of references to original articles and papers on the operation under discussion, for the surgeon is thus enabled to obtain further information should he desire it. The work is likely to be of use to the senior student reading for the higher examinations, but it is of especial value to operators who have had but little experience, and indeed any surgeon will profit by its perusal should he have to perform an operation with which he is not practically familiar.

Saunders' Year-book of Medicine and Surgery. Under the general editorial charge of GEORGE M. GOULD, M.D. London and Philadelphia: W. B. Saunders and Co. 1902. Medicine, pp. 715; Surgery, pp. 684. Price 26*s*. or 13*s*. per volume.

AS is well known, this work is a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery. The information contained in it is derived from journals and monographs and text-books by the leading American and foreign authors and investigators. Each section dealing with different departments of medical science is under the charge of one or more physician or surgeon. The publication forms a most valuable work of reference and by the appearance of new volumes every year all the most modern views and discoveries in every branch of medicine and surgery are duly chronicled and preserved.

Dr. Alfred Stengel and Dr. E. L. Edsall are responsible for the section on General Medicine. They give an exhaustive summary of the work accomplished during the past year. Attention is drawn to the investigations which have been made in regard to the modes of propagation of various infectious diseases, among which malaria, yellow fever, and the plague are conspicuous examples. Reference is made to the meeting of the British Congress on Tuberculosis and to the announcement made by Professor Koch that bovine tuberculosis and human tuberculosis are practically distinct diseases. It is needless for us to comment on this statement here. The work now being accomplished by a Royal Commission will be watched with interest and the final results anxiously awaited. The section on Pathology and Bacteriology (edited by Dr. David Riesman and Dr. A. O. J. Kelly of Philadelphia) also contains a vast number of interesting facts. The reader is enabled to note in a comparatively small space the most notable discoveries and observations which have been made in this branch of medical science during the past year. Other sections deal with Pediatrics, Nervous and Mental Diseases, Cutaneous Diseases and Syphilis, Materia Medica, Experimental Therapeutics and Pharmacology, Physiology, Legal Medicine, Public Hygiene and Preventive Medicine, and, finally, "Physiologic Chemistry." This completes the first volume and all the editors may be congratulated on having performed their tasks creditably.

The second volume deals with Surgery; it forms practically a distinct work and maintains the same high standard of usefulness as does the first. The section on General Surgery (by Dr. J. Chalmers Da Costa and Dr. H. Gibbon of Philadelphia) includes remarks on anæsthetics; the observations of Dr. Rudolph Matas on local and regional anæsthesia with cocaine and other analgesic drugs, including the subarachnoid method as employed in general surgical practice, are duly noticed. In this volume will be found sections on Obstetrics, Gynæcology, Orthopædic Surgery, Ophthalmology, Otology, Diseases of the Nose and Larynx, and Anatomy. It will thus be seen that the scope of the work is large and the admirable manner in which the editing is accomplished renders the publication a most useful one.

LIBRARY TABLE.

Essentials of Obstetrics. By CHARLES JEWETT, A.M., M.D., assisted by HAROLD F. JEWETT, M.D. Second edition. Illustrated by 80 Woodcuts and five Coloured Plates. London: Henry Kimpton. 1902. Pp. 386. Price 10*s*. 6*d*.—This book comprises a clear account of the essential facts and principles of obstetrics and is distinguished by the practical character of its details and by the avoidance of all unnecessary discussions of theories or matter of merely historical interest. The section upon Antiseptics is admirable and contains full details of the best methods of carrying on the antiseptic management of labour. A most valuable part of the book is that devoted to the consideration of abdominal examination and the correct conduct of labour. The great importance of the avoidance of vaginal examination is duly insisted upon and the various methods of practising abdominal palpation are fully described and illustrated by a series of photogravures. No doubt the author's method of regulating the birth of the child's head is a very good one, but when he says that the practice of expressing the head between the pains is useless and injurious we think he is a little overstating the case. In our own hands the practice of expressing the head between the pains, always provided that complete flexion has been maintained, has proved of great value. Under the account of the management of the newly-born child the author describes the various methods of feeding infants, including the use of modified milk, and a number of formulæ

are given which should prove of great service to the practitioner. On the whole the little book is a good example of its kind and is accurate and trustworthy.

Manual of Practical Medical Electricity. By DAWSON TURNER, B.A., M.D., F.R.C.P. Edin., M.R.C.P. Lond.; Fellow of the Physical Society; Lecturer on Experimental Physics Surgeons' Hall, Edinburgh; Additional Examiner in Experimental Physics in the Edinburgh University; Medical Officer in charge of the Electrical Department of the Royal Infirmary, Edinburgh. Third edition. London: Baillière, Tindall, and Cox. Demy 8vo, with 168 Illustrations. Pp. xx–384. Price 7s. 6d.—The first edition of this work appeared, we believe, in 1893 and it is difficult to understand why the author has not republished the preface and date of his first edition together with that of the third edition. The practice is usual and convenient. It is no small task to compress an account of modern electrical methods and principles within the scope of 384 pages, but Dr. Turner has succeeded in accomplishing this, and the present edition is for the most part brought well up to date. The author should, however, have embraced the opportunity of amending several badly constructed sentences which are still to be encountered on some of the pages. Until quite recently the practitioner who was known to adopt electricity to any extent in his practice was regarded, not exactly as a charlatan, but as one on whom the leaders of the profession, at any rate, might look askance. Happily, these views have become modified and we have arrived at a stage when it is even possible to found a society for the study of electro-therapeutics. Nevertheless, the elaborate and expensive nature of the apparatus required for applying high frequency and other forms of alternating current, static electricity, and x rays, and the wider application of these in the treatment of cancer and various morbid conditions of the skin, have tended to place these methods of treatment in the hands of a few. There still, however, remain the simpler forms of electricity which are applicable to many cases and which any intelligent practitioner can use. To these we can commend Dr. Turner's book. The measure of favour accorded to this work has justified our favourable review of the first edition.[1] It is written by an author who is thoroughly in touch with his subject and by a practitioner who has his own experience to guide him and who writes in terse and on the whole intelligible language.

The Book of Romance. Edited by ANDREW LANG. London: Longmans, Green, and Co. 1902. Pp. 384. Price 6s.—Mr. Andrew Lang once wrote a delightful paper which incontrovertibly proved, although the eminent statesman was alive at the time, that Mr. Gladstone had never existed and was merely a sun myth. Exuberated by this excellent piece of work he now dares to say in his introduction to the work before us that Odysseus and Arthur never existed, that all romances are expansions of fairy tales, which latter were devised in the youth of the world by no one knows whom. We are reluctantly obliged to confess that this theory is most likely true, although in our heart of hearts we do not believe it, nor we are certain does Mr. Lang. With regard to Arthur, Tintagel still stands, Tristan and Iseult are buried there and at one or two other places also we fancy, and the round table is at Winchester to this day. This is proof enough for most people. As for Odysseus, no one who reads the Odyssey can fail to believe that he was a real person. In passing, we may say that if a person cannot read Greek he had better study the translation by Butcher and Lang, that by Worsley, or that of old Chapman. In "The Book of Romance" Mr. Lang gives us the old yet ever new story of the Quest of the Grail with many other stories of Arthur and his knights; the story of Roland and the dolorous rout of Roncesvalles; and the tale of Wayland Smith, of whom King Alfred said, "Where are now the bones of the famous and wise goldsmith Weland? I call him wise, for the man of skill can never lose his cunning and can no more be deprived of it than the sun may be moved from his station." Besides these we have the story of our English hero Robin Hood, the tale of Diarmid and Grania, the old saga of Gretsir the Strong, and the story of William Shortnose. If these stories are not true they ought to be. The book will make an admirable gift for anybody old or young, and it is beautifully illustrated by Mr. H. J. Ford.

Diseases of the Rectum and Anus, designed for Students and Practitioners of Medicine. By SAMUEL G. GANT, M.D., LL.D., Professor of Rectal and Anal Surgery at the New York Post-Graduate Medical School and Hospital; formerly Professor of Gastro-Intestinal Surgery at the University and Woman's Medical Colleges, Kansas City, Mo., &c. Second edition. Rewritten and enlarged. With 37 Full-page Plates, 20 of which are in Colours, and 212 smaller Engravings and Half-tones. Philadelphia: F. A. Davis Company. 1902. Pp. 687. Price 35 net.—We noticed favourably the first edition of this work in 1897, and even a cursory view of the present issue shows that it is in every way a distinct improvement on its predecessor. The coloured plates and other illustrations have been greatly increased and deserve fully the praise we bestowed on those in the first edition. The bulk of the book has increased by nearly 75 per cent., but the new material is of great value. A great part of the book has been rewritten and it is thoroughly up-to-date. In the first edition two chapters on Cancer of the Rectum and on Colostomy were written by Mr. Herbert W. Allingham; in this edition they have been completely rewritten by Dr. Gant, and they are certainly very satisfactory. On the whole we may say that we do not know any treatise on the subject which more fully represents the present teaching of surgery. Why does the author write "pruritis" instead of pruritus, as if the word indicated an inflammation? We have noticed this spelling several times within recent years, but there is no justification for it etymologically and there is certainly no need for the change.

The Temperance Reader. Specially intended for Schools. By the Rev. W. H. COLOGAN and Sir FRANCIS RICHARD CRUISE, D.L., M.D. Dub. Dublin and Belfast: Eason and Son. 1902. Pp. 155. Price 1s. net.—We think we may say without contradiction that there is no class of the community to whom the evils of drunkenness or of the too great consumption of alcoholic liquids are so evident as to medical men. We have no hesitation in saying that if throughout these islands no alcoholic drinks were taken for one year there would be an enormous decrease in crimes of violence. This being so we are ready to welcome any efforts for the promotion of temperance and the little book before us is evidently a well-meant and earnest effort to state the evils of drunkenness and the advantages of temperance. We observe that it is specially written for schools and therefore we think that it is a pity that the writers have gone out of their way to make statements which have no particular bearing upon the subject in hand and which moreover are singularly inaccurate. Thus on page 19 we find concerning alcohol, "It does not contain nitrogen, nor sugar, nor water, but it does contain certain salts." The list of substances which alcohol does not contain might be extended almost to infinity, and it is undoubtedly true that it does not contain nitrogen, sugar, or water, but to say that it contains salts is not correct. Later in the same page we find an account of the making of wine. This again is not necessary for the understanding of the fact that drunkenness is a bad thing and moreover it is full of inaccuracies. One other instance. On page

[1] THE LANCET, Nov. 19th, 1898, p. 1101.

130 is the conclusion of a story about a man who sold an idea with money in it for a glass of beer. The astute buyer of the idea, which was that of a zinc collar-pad to prevent horses getting sore necks, argued "that the matter oozing from the sores on the horses' necks would corrode the zinc pad and produce sulphate of zinc—thus the disease would provide its own remedy." It may be said that this was only the idea of the buyer, but the authors of the book let it pass without a word of comment. Some salts of zinc would undoubtedly be produced, but surely not the sulphate. However, as a whole the book puts the arguments for temperance in a forcible manner, but we do think that in a book specially intended for schools such errors as we have indicated should have no place. In regard to the uses of alcohol as a medicine (p. 29) we should like to point out that alcohol is seldom given as a medicine simply because it is alcohol. Its main use is as a vehicle for a drug—i.e., in the form of tinctures or "spiritus." When wine or brandy is ordered it is ordered, or should be, not so much on account of the alcohol but on account of the ethers which it contains or occasionally (in the case of certain wines) because they contain an easily assimilable form of iron.

JOURNALS AND MAGAZINES.

The Medical Magazine in its October number contains an interesting and convincing article by Dr. Henry Rayner who points out the extreme rarity of the occasions upon which narcotic drugs should be used to produce sleep. Dr. Rayner's article is entitled "Sleep in Relation to Narcotics" and in accordance with the title it is more concerned in demonstrating the disadvantages of narcotics when used to produce sleep than in setting forth the advantages of other methods of treatment. Dr. Rayner shows how in many cases the defective elimination, which is part of the disease being treated by the narcotic, is inevitably heightened by the added need for elimination of the narcotic drug itself. He shows also how there are essential physiological differences between natural sleep and that produced by narcotic drugs, and finally he concludes that, "with very rare exceptions narcotics can be avoided with advantage."

Analytical Records
FROM
THE LANCET LABORATORY.

VISANUS ROYAL HOSPITAL DISINFECTANTS.
(THE VISANUS CO., 2 AND 4, CARRICK-STREET, GLASGOW.)

VISANUS disinfectant fluid is a brown tarry-looking compound exhibiting strong alkaline reaction. It contains tar derivatives associated with resin and alkali. It forms with water a milky fluid. On the addition of an acid to the fluid oils separate amounting to about 80 per cent. of the original volume. These oils did not appear to dissolve on adding alkali. We find no very remarkable feature in this preparation. It doubtless possesses strong disinfectant properties. The liquid soap which we examined contained this fluid as its disinfectant basis.

PRIMOX.
(PRIMOX, LIMITED, 53, NEW BROAD-STREET, LONDON, E.C.)

The chief feature of this preparation is that it is made with both meat and vegetables, the latter serving to improve the otherwise sickly and unappetising flavour of ordinary meat extract. Primox is a brown pasty mass with saline meaty taste and with a not unpleasing flavour also of vegetables. Our analysis gave the following results: moisture, 35·00 per cent.; mineral matter, 17·42 per cent.; and organic matter, 47·58 per cent. The total nitrogen amounted to 4·00 per cent. Primox is a highly concentrated preparation and should be useful as an emergency food. We attach little importance on dietetic grounds to the addition of vegetables in this preserved state.

LAUREL CAMPHOR SOAP (MILNE).
(THE GALEN MANUFACTURING CO., LIMITED, WILSON-STREET, NEW CROSS-ROAD, LONDON, S.E.)

This soap proved to be well made, containing a minimum of moisture and giving absolutely no indication of alkaline excess. It is soft and agreeable to the skin and possesses an attractive odour. The soap is said to contain the oil of the camphor laurel, tar phenols and cymene. It yields a pleasant, soothing lather and is suitable for delicate skins.

NON ALCOHOLIC MALT BEER.
(H. B. MAY, DYSON'S LANE NURSERIES, UPPER EDMONTON.)

We may not have received this specimen in good condition, for it was not very satisfactory, neither can it correctly be described as non-alcoholic. As a matter of fact, the amount of alcohol we found considerably exceeds the Excise limit of 2 per cent. proof spirit. Our analysis was as follows: extractives, 3·14 per cent.; mineral matter, 0·10 per cent.; and alcohol, by weight 2·44 per cent., by volume 3·07 per cent., equal to proof spirit 5·37 per cent.

BEERS OF LOW ALCOHOLIC STRENGTH.
(UNITED BREWERIES CO., COPENHAGEN; AND 46, QUEEN VICTORIA-STREET, LONDON, E.C.)

It is hardly possible to brew a genuine malt beer which will possess as low a strength of alcohol as is represented by 2 per cent. of proof spirit. As our analysis of these Danish-brewed beers shows, however, it is possible to obtain a genuine malted liquor of a satisfactory character with the alcoholic strength not exceeding 3 per cent. of proof spirit. A beer which is shown to contain 2 per cent. of alcohol by volume or only 1½ per cent. by weight can scarcely be regarded as an intoxicating liquor. The Excise authorities, however, rule that 2 per cent of proof spirit must be the limit of the teetotal beverage and any liquor above this strength must be sold by licence. If the limit had been made 3 per cent. of proof spirit genuine fermented malt liquors of a practically non-intoxicating kind could be sold with the same freedom as are the strictly non-alcoholic drinks such as soda-water and lemonade. The beers above described are of the character of lager beer but with even less alcohol. We have examined three qualities. No. 1 gave the following results: malt extractives, 5·13 per cent.; mineral matter, 0·16 per cent.; and alcohol, by weight 1·69 per cent., by volume 2·12 per cent., equal to proof spirit 3·71 per cent. No. 2: malt extractives, 2·54 per cent; mineral matter, 0·11 per cent.; and alcohol, by weight 1·06 per cent., by volume 1·34 per cent., equal to proof spirit 2·34 per cent. No. 3: malt extractives, 6·61 per cent.; mineral matter, 0·20 per cent.; and alcohol, by weight 1·69 per cent., by volume 2·12 per cent., equal to proof spirit 3·71 per cent. These beers are genuine malt liquors, somewhat rich in extractives, but poor in alcoholic contents. Their flavour is like that of lager beer, while they are agreeably charged with the natural gas of fermentation.

UNIVERSITY COLLEGE, LONDON, GOWER-STREET, W.C.—The specimens, upwards of 100 in number, which have been added to the Museum of Anatomy and Pathology are now on view at University College. The specimens include a series of tumours of the large intestine removed by operation, gall-stones removed by operation, and tumours of the thyroid gland. Among the individual specimens of special interest may be mentioned a spontaneous aneurysm of the brachial artery removed by operation, a diverticulum ilei completely detached from the bowel by sloughing, a collar-stud impacted in the right bronchus and causing bronchiectasis and empyema, and a dissection of an obturator hernia.

New Inventions.

A NEW PLATE-COOLING APPARATUS.

FOR bacteriologists who are extensively engaged in the bacteriological examination of water and other investigations requiring the frequent use of gelatin Petri plates an important desideratum is to be able to cool the plates quickly so as to allow of rapid solidification. For brushing over the surface of plates containing agar or gelatin it is a great advantage to be able quickly and firmly to solidify the medium, thus enabling the brushing to be performed soon after the media have been poured out.

The following apparatus has been made for me by Messrs. Baird and Tatlock to facilitate the solidification of gelatin and agar media in Petri plates. It consists of a rectangular-shaped copper vessel with a thick plate-glass top, the top being firmly fixed to the copper so that no leakage of water from the interior on to the surface is possible. The apparatus which was made for me measures 18 × 14 inches and is one inch deep and will take from nine to 12 Petri plates according to size. It is provided with three quite short metal tubes as shown in the illustration—an inlet tube at one end, an outlet tube at the other, and a safety tube just above the inlet tube. The inlet tube is connected by indiarubber tubing to a tap and the water flows through the tube, passing out by the outlet tube and from this by means of indiarubber tubing to the sink. In this way a complete circulation of cold water is maintained and media plates put on the surface of the glass are rapidly solidified. The outlet tube is slightly smaller to facilitate the chamber being kept full of water, but risk of breakage of the glass is obviated by the safety tube which also leads by indiarubber tubing to the sink. The tubes are so arranged that the water passing through completely fills the chamber and is in contact everywhere with the under surface of the glass.

The chief points about the apparatus are: (1) the cooling is done entirely by water—no ice is required and everything is at hand; (2) no water can get on to the surface of the glass and so possible contamination from that source is quite avoided; (3) a glass surface is superior to a metal one, as it always offers a perfectly level surface; and (4) the water is in contact all over and so uniform cooling is obtained.

The average time taken to cool gelatin plates to complete solidification from a temperature of 40° C. is from five to six minutes on a warm day with a room-temperature of from 20° to 24° C., and less on cool days. The temperature of the tap-water circulating was very generally about 15° C. Agar plates are of course solidified almost immediately.

Cardiff. WILLIAM G. SAVAGE, M.D. Lond.

THE BATTLE OF THE CLUBS.

A CORRESPONDENT writes to us pointing out that within the last three months clubs in various districts have united to form medical aid associations, withdrawing in a body from the local practitioners and importing a medical man "who agrees not to practise privately and attends the lot for a fixed sum per annum." He thinks that while some medical men can well afford to do without clubs there are others to whom the loss is of serious consequence, so that he deprecates the policy of medical men in any district allowing a medical aid association to be started for the sake of 6*d.* or 1*s.* extra per member per annum, "because once the clubs leave in a body and form an institution they put the wives and children in as members of that institution and the loss to the local medical men is much greater than it seems at first." He gives figures showing that his own loss has been substantial, but he is apparently unaware that in many cases one of the reasons that have determined medical men to have no further connexion with medical aid associations is the determination of the associations to get the women and children treated at contract prices. The women and children were lost, or about to be lost, as patients to many practitioners when they decided to sever connexion with the clubs. We sympathise genuinely with our correspondent who has suffered for the cause of professional union, but we assure him that it is necessary to resist in many places the attitude taken by medical aid associations towards the medical profession.

THE GOLDEN EAGLE FRIENDLY SOCIETY AND DR. THOMAS COLVIN.

The letter which follows is a clear account of a recent and successful action brought by Dr. Thomas Colvin against the Golden Eagle Friendly Society. We presume that the manager and secretary of the society does not deny having told the patient that his society would be responsible for Dr. Colvin's fees, for apparently at the hearing of the appeal an official note from the society to Dr. Colvin was produced.

"THE FRIENDLY SOCIETY AND THE DOCTOR."

To the Editors of THE LANCET.

SIRS,—Under the above heading a report of a case tried before the High Justiciary Court, Edinburgh, appeared in the Scottish newspapers last Tuesday, and as the point at issue is not clearly stated in the report and is of some importance to the profession, I trust that you will allow me to place it before your readers.

The facts of the case are briefly these: The mother of a member of the Golden Eagle Friendly Society, Glasgow, called on Mr. Swanson, the manager and secretary to the society, and informed him that the said member was ill and wished to be attended by the society's medical officer. Mr. Swanson told her that as she lived some distance—fully two miles—from their doctor she was to call me in as I lived in the neighbourhood and the society would be responsible for the expenses incurred. She did so, and having attended the boy for three weeks, giving him medicine and gargles for acute tonsillitis, I sent in my account to the society for the modest sum of 24*s.* After sending it three times I was informed in an impertinent note written at the foot of my third statement of account that the society was not responsible for it. I at once sued for the amount in the Small Debt Court. When the case came before Sheriff Balfour the defence was that I was not one of the doctors specially appointed by the society and that I was engaged by the patient himself and not by the society. As the woman told her story in court in such a honest and straightforward manner and it was brought out in evidence that she was an utter stranger to me, whereas I was known to Mr. Swanson, having previously done professional work for the society at the usual rates, the sheriff decided in my favour although I could not unfortunately produce in court a note which the woman brought to me with the society's stamp on it and my name and address, the note having been mislaid at the time but was found before the second trial took place. On a strong appeal of the law agent for the society that its medical officer, who holds a professional appointment in one of our local medical schools, was only paid the magnificent sum of *3s. per year per member for sick attendance and free medicine* a decree for 12*s.* was granted. I was willing to accept this rather than lose any more valuable time over so trivial a case, but not so the other side. It appealed to a higher court against the sheriff's decision and involved me in a lawsuit with many pounds of legal expenses at stake. When the appeal came before the Justiciary Court it was dismissed and I was awarded 10 guineas for expenses. The net result is that the Golden Eagle Friendly Society has now to pay something like £30 for legal expenses instead of 12*s.*

The point which I wish specially to emphasise and which was not clear in the newspaper report of the case is that this decision in no way affects the well-known rule of friendly societies that members must consult the specially appointed medical officers of the society when ill and if they consult any other medical man they do so at their own expense. The decision only brings out clearly that when a member of the society is instructed by a responsible official of said society to consult a medical man other than the appointed medical attendant the society and not the member is liable for the expenses.

I have only to add that this case is an excellent example of the worry and annoyance that we sometimes have in recovering a reasonable and just debt and it is to be hoped that one or two lessons like the above will teach some officials of friendly societies to have a little consideration for the poor underpaid and hard wrought "doctor."

I am, Sirs, yours faithfully,

Glasgow, Nov. 3rd, 1902. THOMAS COLVIN, M.D. Glasg.

In the circumstances it would be interesting to know on what grounds Dr Colvin's modest claim was resisted. The manager and secretary of the society knew that his claim was just and so did the patient. Why did the society try to bounce him out of his fee? As long as these things happen and officials of friendly societies behave in this manner to the medical profession, so long will medical men look askance at sick contract work.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 8, 1902.

Scientific Memoirs from the Research Laboratory of the Government of India.

INDIA has of late been the scene of much scientific work. The incidents in its scientific life during the last 20 years have been the visit of KOCH in connexion with the discovery of the spirillum of cholera; the appointment of an Imperial bacteriologist under the veterinary department, followed as it was later by the establishment of a splendidly equipped bacteriological laboratory at Muktesar on the foothills of the Himalayas; the appointment of Mr. HANKIN as chemical examiner at Agra and his enthusiastic exploitation of bacteriology in the service of sanitation; and Mr. HAFFKINE'S arrival in India and his devoted labours in connexion with the practical application of his system of anti-cholera inoculation. Then, following upon the introduction of plague into Bombay in 1896, came the inauguration of a system of anti-plague inoculation by Mr. HAFFKINE and the study of the disease by the Indian Plague Research Committee. India was then visited by the Austrian, German, Russian, and lastly, by the English plague commissions, these devoting themselves to the study of the epidemiology and bacteriology of the disease, of its serum therapeutics, and of Mr. HAFFKINE'S system of protective inoculation. Contemporaneously with this came the epoch-making work of Major RONALD ROSS in connexion with malaria and the subsequent study of the question by the Royal Society's commission and others, and a little later came the opening of the institute for anti-rabies inoculations at Kasauli under Major D. SEMPLE, R.A.M.C., late assistant professor of pathology at Netley.

The absolute urgency of scientific research having been brought home to every mind by the more striking of these events, steps were taken by the Government to make provision for carrying it on in a systematic manner and for encouraging its pursuit on the part of medical officers of the Indian Medical Service and others serving in connexion with the sanitary service in India. As a beginning a system was four years ago adopted of attaching yearly an officer of the Indian Medical Service to the Army Medical School at Netley for a year's training in research. In India itself a central research laboratory has been established and has been placed under the chief directorship of Mr. HAFFKINE, and there have also grown up laboratories in connexion with the Health Offices of Calcutta and Bombay. To provide a convenient medium for the publication of the scientific work which may be confidently expected if the Government does its part as a foster mother it has been found necessary to remodel the "Scientific Memoirs by Medical Officers of the Army of India"—a quarto volume which appeared only at long intervals,—to confer upon it the wider title of "Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India," and to provide for the publication in the form of separate fascicles of the scientific matter as it becomes available. The first number of this series of publications now lies before us. It contains an important and interesting research by Captain G. LAMB, I.M.S., and Dr. W. HANNA conjointly on the standardisation of CALMETTE'S antivenomous serum and on the deterioration of this serum through keeping in India. The paper is a model of careful work and lucid exposition. In the first part of the work, which follows up a research undertaken by one of the authors conjointly with Major SEMPLE at Netley, the writers emphasise the necessity of breaking away from M. CALMETTE'S method of standardisation with a test-toxin altered by heat and from his system of expressing his results. The writers urge that there should be substituted for this a test with a definite quantum—a large multiple of the lethal dose—of unaltered cobra poison and that the strength of the serum should be expressed by setting down the quantum of snake venom which is neutralised by one cubic centimetre of the therapeutic agent. Upon this hinges, of course, the dosage, the dominating question in connexion with the therapeutic application of the remedy. Connected with the question of dosage is that of the keeping properties of the serum. Seven different samples of sera—all sera which had been stored in India for intervals varying from a few months to three, four, and five years—came under investigation. In the case of these last the strength was found to be only one-fifth of the strength of the newly imported serum. In other words, the deterioration was such that a dose of some 250 cubic centimetres would have been required to secure complete protection against the quantity of venom which can be obtained from a full-sized cobra.

We congratulate the Government of India on having established a research laboratory in which work such as this will be carried out. We understand that provision is being made also for the preparation at the research laboratory of anti-venomous sera; and we look forward confidently to the time when the pathological labours of India done on the spot, will equal those in any scientific centres in Europe. More laboratories, of course, are urgently required, and upon their provision it is to be hoped that the era of nomadic science—to borrow the term from KANT—will be followed by the steady cultivation of the soil. The institution of commissions to inquire into, and to report upon, pathological conditions has undoubtedly been valuable, but travelling experts, however eminent their position and qualifications, cannot do the steady work that is required. More local provision for the utilisation of unequalled material must be forthcoming, when local solutions of the problems that present themselves may be anticipated.

Tuberculosis in Asylums for the Insane.

THE prevalence of tuberculosis, especially of the pulmonary variety, amongst the patients in lunatic asylums has long been acknowledged. Hitherto no thorough investigation has been made in regard to the influences which bring

about this undue occurrence of tuberculous disease, nor has it been fully realised that stringent means should be employed to combat the spread of the malady. The subject was recently brought before the notice of the Medico-Psychological Association of Great Britain and Ireland and a resolution was passed to the effect that the council of the association should appoint a sub-committee "for the investigation and collection of evidence and for practical suggestions as to the isolation of phthisical patients in asylums." The committee was duly appointed and a report which has now been published was presented to the association.

There is much in the report that is worthy of notice. In the first place the members of the committee assured themselves "that it is a fact beyond contradiction that phthisis is prevalent in our public asylums to an extent which calls for urgent measures," and further, they were convinced by the evidence brought before them "that large numbers of patients contract phthisis *after* admission into the asylums." There can be no doubt that overcrowding and consequent deficient day and night cubic space are the most important factors conducing to the high mortality from pulmonary tuberculosis which exists in asylums. In other words, the committee maintains that there is not sufficient cubic space per patient in the great majority of the large institutions for the insane. It is further shown in the report that those asylums which stand on a good and dry soil have a considerably lower death-rate than those built on a bad and damp soil. Another interesting fact is that the death-rate bears a ratio to the number of hours spent in the open air by the patients. The insanitary habits, too, of a large number of insane patients must also increase the risk of infection—for example, it is much more difficult to prevent indiscriminate spitting amongst the inhabitants of asylums than in a community of sane individuals. Nor is the danger presented by this prevalence of tuberculosis in asylums confined to the unfortunate inmates—the danger is shared by the public, for large numbers of patients are discharged every year from these institutions and there is considerable risk of disseminating disease among the general population. There are thus several points to be considered—the interests of the uninfected and those of the infected, the interests of the lunatic patients and those of the public. It is evident that overcrowding must be checked before the death-rate from pulmonary tuberculosis can be lessened. This statement especially applies to the sleeping accommodation in the large asylums. The members of the committee quite rightly insist that not only should dormitories be free from overcrowding, but that the greatest care should be taken that plenty of fresh air passes through the rooms during the night-time. We cordially endorse this opinion and join in the protest against the present tendency to build very large establishments. The question, no doubt, is mainly one of expenditure, but we think that the efforts made by the Commissioners in Lunacy with the view of limiting the dangers referred to ought to have the full support of all county councils and other authorities concerned in making proper provision for the insane in asylums.

The question of ventilation of asylums is dealt with in a separate report. The compilers of the report are of opinion that until a perfect system of artificial ventilation has been discovered it is better to depend on natural ventilation and to aim at constructing buildings in such a way as to make use of natural forces rather than to resort to artificial means which are open to numerous objections. This view, in the present state of our knowledge and with the existing discrepancies of opinion, is certainly safe.

The precautions which should be provided for the infected cases are obvious from what we have stated above—namely, the disease should be diagnosed early; all patients suffering from tuberculosis (especially cases of the pulmonary variety) should be isolated; the size of future asylums must be limited; overcrowding must be checked; the day and night cubic space for each patient must be increased; constant and sufficient natural ventilation should be provided; the necessary precautions to prevent the spread of the disease (such as the proper disposal of the sputa) must be rigidly enforced; and finally, suitably constructed and situated hospitals and sanatoriums must be established with adequate and convenient surroundings for the isolation of tuberculous cases and their treatment on modern lines. To carry out these suggestions properly certain difficulties will have to be overcome. As is pointed out in the report, the great obstacle in providing the requisite isolation and other necessary details in the treatment of the tuberculous insane arises from the fact that provision must be made for patients in every phase of mental disorder. A sanatorium or isolation hospital for such cases must therefore be built on lines to meet all exigencies—must, in fact, be an asylum in miniature. The question of expense will naturally be a prominent one. The Commissioners in Lunacy have, we believe, advocated the union of two or more asylums for the purpose of erecting a joint sanatorium. We consider this proposal to be a practical one and trust that it may be acted on.

In conclusion, we commend a perusal of this report to the various authorities who have control of the management of large lunatic asylums throughout the kingdom. It deals with a matter of the highest importance not only to the inmates of those institutions but also to the general public. Pulmonary tuberculosis has been generally recognised as a disease that may be communicated from one individual to another and therefore every possible precaution should be taken to prevent the dissemination of the malady.

The Army Medical Service and the Advance of Medical Science.

THE words which fell from Lord ROBERTS'S lips on the occasion of the annual distribution of prizes at St. George's Hospital should give hope and confidence to all who have at heart the position of medicine in the British Army and the welfare of the Army Medical Service. The Commander-in-Chief spoke in terms of unstinted praise, and he spoke, not as a man who is pleasantly influenced by reading the insinuating flattery of a favourable report, but as a man who with his own eyes has seen, and with his own experienced judgment has tested, the good work of the officers receiving approbation. Such testimony from such a source should go far to soothe the

heartburnings of individual members of the Royal Army Medical Corps, among whom it was, at any rate until recent times, no uncommon complaint, and in most cases a very justifiable complaint, that neither their position nor their services received recognition from the combatant branches of the army. We do not enter here into any detailed comparison between the conditions of the service under the new Warrant and those that held previously. The subject has been fully dealt with in our columns, and we content ourselves with recording our view that, with the improved conditions of the new Warrant before him, and feeling certain of gratitude and respect on the part of the combatant branches as represented by Lord ROBERTS, the officer of the Royal Army Medical Corps in the future should have it in his own hands to make his position not only one of the highest utility but also one of great dignity and influence. Until the present time the main reproach cast upon the Army Medical Service by critics without its ranks was one which was not deserved in many instances, while it was very easily earned by even most capable members of the service. It was maintained that, however brilliant his attainments, however eager his devotion to medicine on entering the service, a man necessarily deteriorated afterwards by reason of the limited medical field presented to him. The amount of routine clerical work expected of him, and the scant opportunity afforded him of keeping abreast with the various branches of medical science as they progressed in civil practice, blunted his scientific enthusiasm. Now all such objections are to a large extent removed. The changes introduced into the medical service of the army by the recent Warrant, especially the provision for study leave, by which officers returning from distant stations are enabled to keep themselves abreast of modern medicine, must have a wonderfully stimulating effect upon the scientific zeal of the military medical man. Not only can he use his own experiences to advantage, but he can benefit by the experiences of his colleagues, both medical and lay—a true interchange of knowledge resulting. Some of the work already done in India and South Africa, particularly in connexion with typhoid fever and malaria, shows clearly enough that among the members of the Army Medical Service there will be no lack of men from whom under favourable opportunities researches may be expected of the highest practical value. From the nature of their surroundings the army medical officers must be above all things practical. If the conditions imposed upon an officer of the service develop also that ability for scientific research which is present in many members of the corps, the importance of the benefits that should accrue both to the condition of troops on active service and to medical science in general ought to be very distinct. Any advance that is made will almost certainly be made along definite lines. The occupation of a medical officer in the army of Great Britain offers an unparalleled field for scientific work. In every quarter of the globe he is likely at some time or other to have medical opportunities of an interesting and unusual character. Under the conditions that now obtain his training and knowledge should permit him to make use of these opportunities. In older days the great JOHN HUNTER was an army surgeon, as Lord ROBERTS, speaking in HUNTER'S own hospital, could not fail to remember. It behoves the military medical officer of to-day to strive that what HUNTER did in the matter of gunshot wounds shall be paralleled by what the Royal Army Medical Corps achieves in the matters of infectious and tropical disease.

Annotations.

"Ne quid nimis."

DENTAL DISEASE AND GENERAL HEALTH.

THE distribution of prizes to the students of the National Dental Hospital and College, Great Portland-street, London, was held on Oct. 29th, when an address was given by Sir Thomas Barlow. He urged the students to study all the anatomical, physiological, pathological, and bacteriological subjects which made up the natural history of disease in the particular tissues with which they were concerned. It was the intimate pathology of dental disease that he urged them to study. He hoped that they would keep up their bacteriology and remember that in every single case of disease there was something to be learned about the mode of onset, the order of evolution of symptoms, and the concomitant conditions, some of which in time might be found to be the actual factors in producing the morbid state. Dentists as well as medical men were continually being called upon to consider the vicious circle of local and general disease and both dentists and medical men had realised of late in a way they neither of them realised before the vast importance of oral sepsis in causing various forms of chronic intoxication. They were aware that strong arguments had been urged in favour of the view that pernicious anæmia was induced by some form of oral sepsis arising in connexion with dental caries. There could be no doubt that marked improvement often ensued on making the oral cavity perfectly wholesome. Many cases of what was called Riggs's disease had been accompanied by chronic septicæmia which had been absolutely cured after efficient treatment of the oral cavity. It should never be forgotten that so long as a man's general health was good he might be enabled to neutralise and to dispose of the toxic products which he was constantly swallowing from a small discharging sinus connected with an old carious root. But if that man became lowered in his general tone from some acute illness, from severe hæmorrhage, or from some grave blood change, as in Bright's disease, then that little sinus assumed great importance and the slight septic absorption might grow into a serious risk. When people got well on into middle life and degenerative changes began to be apparent, that was the time when dentists might often score their most brilliant successes by aiding digestive processes with the mechanical resources at their disposal and removing the causes of toxic absorption. In that way they would deserve gratitude and gain credit. Sir Thomas Barlow concluded by laying particular stress on the importance of the proper care of the teeth in children because there were special risks of absorption of morbid products in connexion with ulceration of the gums and it seemed fairly clearly shown that such a lesion was one of the modes by which tubercle obtained access to the lymphatic glands.

THE TUBE RAILWAYS.

THE recent acquisition of the control of the London United Electric Tramway Company by Messrs. Speyer Bros., the financial sponsors of the competing Metropolitan District line now associated with the name of Yerkes, has caused a complete revolution in the proposed new tube railway

schemes, it is to be feared not much to the ultimate advantage of the public. The immediate result has been the withdrawal from Parliament of the proposed Bill for the line from Hammersmith to Piccadilly promoted by the London United Electric Tramway Company and the consequent compulsory abandonment of the line in continuation under the Strand to Tottenham and Palmer's Green promoted by Messrs. Morgan and Co. Thus the Metropolitan District Railway and the Central London Railway are relieved from the threatened competition. At all events the Metropolitan District line will gain time which it may be hoped the directors will devote to establishing their claim to public favour and so removing the chances of attracting a rival to their locality. This scheme of the Morgan group being defeated for the present all their energies can now be devoted to push forward their new venture—viz., a tube line which they are promoting to run from the Lothbury station of the Great Northern and City line, under the Central London Tube to the Marble Arch, an express service being contemplated between these stations. At the Marble Arch the line will connect with the new line to Cricklewood on the north and with the proposed new line to Clapham Junction on the south. This will give the directors of the Central London Railway something like a shock. Sir Henry Oakley, the chairman of the company, has already been a good deal exercised in his mind by the decision of the Parliamentary Committee which rejected the scheme of the Central London Railway to form its line into a complete circle, in favour of the now defunct rival scheme of the White-Morgan group. He has been, as he says, "ventilating the question" in the *Times*. It would be much more satisfactory to the public if he devoted his undoubted abilities to promote some more effectual method of ventilating the Central London Tube, which, notwithstanding the assertions of his manager to the contrary, leaves much to be desired. The recent efforts to accomplish this object at Bond-street station have been by no means successful. There is some talk of a suggestion to admit compressed air into the tunnel through a series of pipes, though owing to the small size of the tunnel itself there is not much room in which to experiment in this direction.

THE PSYCHOLOGY OF "AUTO-ACCUSATION."

"AUTO-ACCUSATION" is a curious phenomenon which possesses both medical and legal interest. The committal of a notorious crime which excites popular imagination and which remains undetected for a time often leads to the appearance in law courts of self-accusing culprits who charge themselves with being the authors of the crime in question. Dr. Ernest Dupré of Paris in a paper read before the Annual Congress of French Alienists and Neurologists recently held at Grenoble attempts to delineate with exactitude the psychological nature of "auto-accusation" and to show that certain morbid elements play an important part in it. He points out that "auto-accusation" is not often or merely the result of weak-mindedness; the subject of it is a person who has positively developed general ideas of unworthiness, guilt, and remorse, and in a word is suffering from mild melancholia with vague delusions of guilt and sin. Another type of self-accuser is the proud and vain "degenerate" who with a brain warped by congenital anomaly of development constructs romances of which he readily persuades himself to be the hero or the martyr. There is, adds Dr. Dupré, a marked contrast between these two types. The one is abject, lowly, self-humiliating; the other proud, egoistic, and vain. Among other types of the same abnormality are found persons of alcoholic or hysterical character. The alcoholic self-accuser is one whose delusion generally has its starting-point in nocturnal or morning hallucinations occurring in a state between sleep and waking. The physical and mental characters associated with alcoholism permit such cases to be readily recognised and they are almost invariably observed in adult males. The female self-accuser is rarely seen in the law court and she is usually the subject of marked hysteria. More often such a dement appears as an accuser of others and weaves extraordinary and plausible romances to bear out her statements. These generally refer to sexual assaults and personal violence sustained at the hands of others, but in rare instances she charges herself also with such crimes as poisoning, abortion and adultery. Dr. Dupré finally points out that many unfortunate men and women who were mentally afflicted in one or other of the ways above mentioned and who accused themselves of poisoning, murder, communion with evil spirits, and the like, were in the Middle Ages gravely tried by legal or ecclesiastical tribunals and even suffered the death penalty or were burnt at the stake as witches and sorcerers, while in a more enlightened age they are now consigned to care in lunatic asylums or other suitable institutions.

THE FACTORY AND WORKSHOP ACT.

THE Factory and Workshop Act (1901) has necessarily thrown an enormous amount of work on the Home Office and a form has recently been prescribed by the Secretary of State for a general register which is to be kept in all the places which come under the provisions of the Act. In this document are included the schedules which are to be used in the case of certificates of the fitness of young persons and children for employment, the prescribed forms for the return of accidents and of cases of poisoning, and the register which has to be kept on premises in which lime-washing is obligatory. There is also a form to be filled up in the case of shop assistants who are employed during extra hours, whether before or after the period of employment fixed by notice, on the same day as that on which the worker has been employed in the factory or workshop. Finally, there is a schedule for the insertion of reports on steam boilers. The general form, which is to be found on the first page, is a very full one. After the ordinary information, such as the name of the occupier, the address, the nature of the work, and so forth, there are spaces allotted for giving the dates at which certificates (if any) were granted—(1) from the local authority as to means of escape in case of fire; (2) from His Majesty's Chief Inspector of Factories as to part of the premises being treated as a separate workshop; and (3) from His Majesty's Inspector of Factories as to separation of departments for overtime and for period of employment. There is no doubt that the Home Office has made a good start in its endeavour to supervise effectively the carrying out of the new Factory Act, and it is to be hoped that local authorities will in like manner perform the duties with which they have been intrusted. A special notice has been issued by the Home Office in regard to explosives which contain nitro-glycerine, and it is rather to be feared that the caution which it conveys may not be brought to the notice of a number of those who would be most likely to benefit by it. There are many quarries in the country which are only intermittently worked. The stones obtained are used chiefly for "metalling" the roads and they are quarried as occasion requires. Nitro-glycerine explosives are often used for the blasting operations which form part of the work. The men employed are usually engaged also in other occupations and spend but a small fraction of their time in quarrying. It is said to be the custom of some of these men in cold weather to thaw the nitro-glycerine compounds by placing them in their pockets. This is not the method recommended by the Home Office, for the notice recently issued is as follows: "All cartridges made of dynamite, gelignite, blasting gelatin, and other explosives

containing nitro-glycerine compounds must always be thawed (in a properly designed warming-pan) before use during the months of December, January, February, and March, and also at any other times if the cartridges are not in a soft and pasty condition." It would be advantageous if the directions given were a little more explicit—for example, the proper design of the warming-pan is not a subject on which all workmen can be expected to have special knowledge and it would be well if directions were given as to the way in which it should be used. In regard to the method by which the caution should be made generally known we would suggest that the Home Office would do well to obtain the assistance of the county councils. Country newspapers, which circulate in districts in which blasting operations are carried out, would render a public service if they would call their readers' attention to the matter and refer them to the Secretary of the Home Office, Whitehall, should they be in doubt as to the pattern of the warming-pan which should be adopted or as to the best method of using it.

THE DISTRIBUTION OF PLAGUE.

As regards Egypt, the director of the sanitary department reports that for the week ending Oct. 19th neither deaths from, nor cases of, plague have occurred throughout Egypt. The last case occurred in Alexandria on Oct. 10th. Of sanitary measures for the week under review 1856 rooms were disinfected and 181 were lime-washed; no sacks of effects were disinfected but 1528 sacks of rubbish were burned. The number of rats killed and burned was 84. For the week ending Oct. 26th there was 1 death from plague which occurred at Alexandria. During the same week 4520 rooms were disinfected and 181 were limewashed; 45 sacks of effects were disinfected and 9842 sacks of rubbish were burned. The number of rats killed and burned was 134. At Galata, Turkey, two fresh cases have been reported, of which one proved fatal. The surviving patient has been removed to the plague hospital at Sivri Bornu and various "contacts" have been removed to the observation rooms in the same place. As regards the Cape Colony, the medical officer of health of the colony reports that for the week ending Oct. 4th no case of plague in any human being had occurred at any place in the colony. Plague-infected rats had been found at Port Elizabeth during the week, the last found being discovered on Oct. 1st In the Yemen the annual outbreak of plague has made its appearance. It is at Benishehir every year at this time that intelligence reaches Constantinople that plague has broken out.

UNDERGRADUATES' ROOMS.

PEOPLE may not have had much sympathy with the view of "An American Mother" in her communication to the *Times* about the shabbiness of undergraduates' rooms in the way of furniture and decoration, but the letter of "A Quondam Don" in the *Spectator* of Nov. 1st calls attention to a much more important matter—namely, the ventilation and sanitation of the college rooms and lodging-house rooms at our English universities. If the description he gives of their state of drainage, defective accommodation, and ventilation be a typical or approximately correct one it is obviously time for something to be done to bring about great changes in these respects. "A Quondam Don" refers to foul and stagnant air in college staircases arising from water-closets in the basement, inefficient drain traps and inadequate window ventilation, improperly disconnected pantry sinks in close proximity to sleeping-rooms, some of which are very small, more or less damp and dark, and occasionally without fireplaces, and he adds that the walls of some of the rooms are covered with thick layers of wall-paper which have been from time to time superimposed one upon the other. He is naturally very dissatisfied with the state of many of the college rooms and lodgings at our universities and thinks that there is great need for the introduction of a system of sanitary inspection by competent medical inspectors and skilled sanitary engineers. It is quite probable, of course, that structurally many old colleges erected long ago fall very short of the modern standard of sanitary requirements, but that is no reason why all practicable attempts at their improvement should not be undertaken. Some of the colleges, both at Oxford and Cambridge, have already done much in this respect. It is quite certain that if we are to get the best out of our undergraduates, physically and mentally, it is essential that their environing conditions should be as wholesome and hygienic as possible and that they should in any case be supplied with an abundance of fresh air.

THE EVOLUTION OF THE VAGINAL SPECULUM.

DR. V. DENEFFE, professor in the medical faculty of the University of Ghent, whose researches regarding ancient medical and surgical instruments are well known upon the continent, has just published another of his series of books, the present one treating upon the antiquity of primitive forms of the vaginal speculum.[1] He traces the use of such an instrument back to an extreme period of 1000 B.C. and gives a summary of references to it in the Greek, Roman, and Arabic medical writers, as well as describing the modifications it underwent in the nineteenth century. As with Dr. Deneffe's previous works, the book is provided with illustrations and gives ample evidence of patient research. The earliest allusion to such an instrument that Dr. Deneffe can trace is in a Sanscrit treatise by Susrutas, translated in 1844 by François Hessler, who assigns to Susrutas a date of 1000 B.C. Susrutas describes the use of an instrument which facilitated the examination of the rectum; he does not expressly mention vaginal examinations, but in his list of ulcerations of the body he enumerates those of the vulva and uterus, from which Dr. Deneffe argues that the instrument used for the rectum must have been also utilised in the vagina for the display of a region otherwise inaccessible to visual inspection. Next in chronological order, Hippocrates, about 460 B.C., mentions examinations of the bowel with the aid of the *καταωτήρ*. He also speaks of a simpler instrument or cannula which dilated the bowel. He makes no reference to these instruments being used in the vagina, but Dr. Deneffe considers that conclusive proof of one or other of them being so used is supplied by 22 passages which he quotes and in which Hippocrates gives an account of diseases of the vagina and uterus, indicating that an inspection of the parts concerned preceded the application of the remedies prescribed. As Dr. Deneffe says, the quotations prove that the diagnosis of ulceration of the neck of the uterus was definitely made and this could not be accomplished without visual inspection for which an instrument would be required. No indication of the employment of an instrument for facilitating vaginal examination is to be found in the works of Celsus, Galen, or Oribasius. Such instruments must, however, have been in use in the first century A.D. for Dr. Deneffe gives photographic reproductions of two of them that had been found in the ruins of Pompeii and are therefore not of later date than the year 79. He then proceeds to give a series of references to an instrument which the Greek medical writers belonging to the Alexandrian school called the *διώπτρα*. Philumenius, quoted by Aetius, mentions it. Soranus of Ephesus and Archigenes of Apamea, in the first and second centuries, when treating of uterine ulcers, say that they

[1] Chirurgie Antique. Le Speculum de la Matrice à travers les Ages. Par le Docteur V. Deneffe. Antwerp: H. Caals. 1902.

should be examined by means of the dioptra. Aetius himself, Paulus of Aegina, and Leonides of Alexandria all speak of the use of the dioptra both for rectal and vaginal examination. With regard to the word "speculum" it is right to observe that it does not seem to have been used by writers of the Roman period in the sense of a medical or surgical appliance, although the cognate word "specillum," meaning a probe, is found. In medical works of the sixteenth century onwards, whether original treatises or Latin translations of Arabic originals, the word "speculum" is not uncommon, meaning sometimes a dilator having two or more branches and sometimes a flat mirror, placed "sub muliere coram vulva ejus," in which the interior of the vagina might be viewed after its sides were held apart by the dilator. Dr. Deneffe argues that the Pompeiian dilators, of which he gives illustrations, may have had polished surfaces, but there is little doubt that the speculum as we know it—namely, a cylinder or cone having a reflecting internal surface—is less than 100 years old. Dr. Deneffe has diligently summarised the literature of his subject and his book will be appreciated by all who take an interest in the history of medicine.

THE POPE AND HIS BODY PHYSICIAN.

ONE of our Italian correspondents writes:—In the early spring of 1899 Leo XIII. underwent a surgical operation for the removal of a cystoid tumour in the lumbar region and now His Holiness has been receiving daily bulletins to relieve his anxiety as to Dr. Lapponi, his body physician, who has just undergone an operation for appendicitis. Professor Mazzoni, the operating surgeon in either case, has been equally successful in both and must now be enjoying the professional satisfaction of having preserved two eminently valuable lives—that of the head of the Latin Church and that of the physician to whom the said head owes so much of his prolonged health and energy, physical and mental. Our readers will remember[1] that before submitting himself to the surgeon the nonagenarian pontiff playfully remarked that he had at least "youth on his side," which perhaps explains His Holiness's solicitude for his body physician about to undergo an operation at the "tender years" of the "fifties." Be that as it may, Dr. Lapponi's condition—acute appendicitis, with, presumably, "incipient necrosis" of the appendix—called at once for the intervention of his colleague, and accordingly Professor Mazzoni lost no time in operating, assisted by Professor Margarucci, and sustained by the affectionate words of the Pope himself: "Keep the patient's heart up; tell him to support the ordeal with faith and courage, and that I am praying that all may go well." His task completed, with full confirmation of the diagnosis, Professor Mazzoni left Dr. Margarucci at his patient's bedside till the evening, when he found that all the symptoms were as favourable as could, by that time, be expected. Subsequent bulletins report steady progress and it is expected that before many days are over Dr. Lapponi will be once more on duty in attendance on his august master. The whole incident throws a pleasant light on the *vie intime* of the Vatican, the able physician surmounting a grave malady by the intervention of the not less able surgeon, and both of them valuing each other's life in the degree in which it can be usefully devoted to that of the Pope. Professor Mazzoni had, it seems, been on the railway most of the night before the operation which he had scarcely performed when he had to proceed to the case of a former colleague's widow also requiring his immediate attention. "But one forgets all weariness," he said, "in the presence of the Pontifical Nestor. You cannot believe how he supports the burden of his years. I never have an audience of him without returning refreshed and reinvigorated. Nothing escapes him; he 'takes stock' of everything, forms his own immediate impressions, reads the journals by himself, so that there is hardly a question of the day which does not interest him or which finds him unprepared. His green old age seems almost miraculous, while his lofty intelligence subjects everything to its control." And all this in the case of a nonagenarian ecclesiastic who for 25 years has never stirred beyond "the palace and the garden" on the least healthy of the hills of Rome and whose "Benedictine assiduity" in the literature of his high calling is (in Hallam's phrase) a rebuke to "the languid students of the present day."

[1] THE LANCET, March 11th, 1899, p. 706.

CHRONIC POISONING FROM ESCAPE OF ILLUMINATING GAS.

ACUTE poisoning from escape of illuminating gas is a well-known accident, but chronic poisoning from the same cause does not appear to have received attention. In *American Medicine* of August 30th Dr. T. J. Yarrow, jun., states that chronic poisoning frequently occurs and is unrecognised. In the *New York Medical Journal* of April 7th, 1900, he first described the condition. He points out that gas-fittings are seldom perfect and that persons exposed to a constant slight leakage of gas grow accustomed to it and soon cease to notice it. The widespread use of gas for cooking has greatly increased the chances of this form of poisoning, as careless servants often fail to turn the gas off completely. Dr. Yarrow has collected a number of cases of poisoning from this source alone. The carbon monoxide of the gas forms a stable combination with the hæmoglobin of the blood (carbonyl hæmoglobin), the spectrum of which shows characteristic absorption bands. When a person is exposed constantly to a leaky gas-pipe the effect on his health is soon apparent. The symptoms are anæmia, frontal headache (worse on rising in the morning), anorexia, tinnitus aurium, vertigo, foul taste in the mouth, abdominal pains, constipation, indigestion, and lassitude. He never feels well but he improves when in the fresh air—a fact which should arouse suspicion of gas poisoning. Chronic gas poisoning differs from acute in that the florid countenance of carbon monoxide poisoning is seldom seen. To examine the blood for carbonyl hæmoglobin the ear is pricked and the blood is drawn into a pipette, diluted with from five to ten cubic centimetres of distilled water, and examined with a spectroscope. The absorption bands are noted and their position is mapped out with a wave-length scale and sodium flame to mark the position of the D line. The absorption bands of carbonyl hæmoglobin, unlike those of hæmoglobin, are not reduced by Stokes's reagent. It is important to detect carbon monoxide in the atmosphere of a house when the escape of gas is so slight as not to be perceptible by odour. For this purpose Vogel's method may be used. Fresh normal blood is added to distilled water until the latter is tinged faintly. About from three to five cubic centimetres are placed in a flask of a capacity of from 100 to 150 cubic centimetres. The flask is shaken for several minutes in the suspected atmosphere. If carbon monoxide is present the liquid, it is said, will assume a bright rose tint and give the characteristic spectrum. Dr. Yarrow relates two cases. In the first the patient was a man, aged 52 years, who had not felt well for some years. He complained of anorexia, nausea, frontal headache, colicky pains, indigestion, and obstinate constipation. He had been confined to bed for several days. Noticing the odour of gas when he entered the vestibule of the house Dr. Yarrow examined the blood spectroscopically and found carbon monoxide hæmoglobin. It was also present in the blood of the patient's sister but not in that of the other members of the family. The patient and his sister slept in badly-ventilated rooms, and the others in

well-ventilated ones. On changing his residence the patient rapidly recovered. The other case is the first case on record of carbonyl hæmoglobinuria from chronic gas poisoning. A woman, aged 58 years, was admitted to hospital with marked tremor of the lower jaw. Gas had been escaping in her house for a long time. She could detect the odour until four or five months before but not since; she thought that she had grown accustomed to it. The urine was crimson and contained carbonyl hæmoglobin; the blood also contained it. Recovery ensued and the tremor diminished.

THE PRICE OF A STIMULANT.

IT is interesting and instructive to calculate the relative cost of pure alcohol as represented in the prices of the alcoholic liquors which the public are wont to consume. Thus, assuming that whisky contains about 50 per cent. by volume of alcohol and that approximately two fluid ounces are the usual amount served for 4*d.*, the purchaser would be paying about 2*d.* per ounce of pure alcohol. Rum at 3*d.* per two ounces would give him rather more alcohol for the same money—about 1½*d.* an ounce. On the other hand, when the consumer pays 2*d.* for his glass of beer he is paying quite 3*d.* an ounce—over 100 per cent. more—for the alcohol. In the case of claret, reckoning that a large wine-glass contains four fluid ounces and that the charge for it is 4*d.*, the alcohol would be costing as much as 1*s.* per ounce. Sherry, a stronger wine, under the same conditions would cost less, 6*d.* an ounce, as regards pure alcohol, while port, a still stronger wine, would cost even less—about 4½*d.* per ounce of alcohol. From the point of view, therefore, of alcohol ardent spirits are cheapest and beer and light wines are most expensive. On grounds of health it is a pity that it is so, and a tendency to a demoralised condition of things is indicated in these facts, for the demand for spirituous liquors is growing apace, and the call for a powerful stimulant at a minimum cost is met with an only too ready response. Apart from their significance from a medical aspect, these observations might well interest the Chancellor of the Exchequer.

INFECTION OF OVARIAN CYSTS DURING TYPHOID FEVER.

IN the *American Journal of the Medical Sciences* for October Dr. Morris J. Lewis and Dr. Robert G. Le Conte have published two cases of a rare complication of typhoid fever—infection of an ovarian cyst. They have been able to collect from literature only six other cases, of which five were observed in Germany. But it must be remembered that only during the last decade have recognition and cultivation of the typhoid bacillus been extensively practised and that previously to 1890 several cases are recorded in which after an attack of typhoid fever suppurating ovarian cysts were found. In Case 1 a woman, aged 28 years, who had been ill for three weeks, was admitted to hospital with all the symptoms of typhoid fever. In the fourth week of her residence in hospital the character of the temperature changed and assumed a hectic type and she complained of pain and tenderness in the region of the pelvis. Vaginal examination revealed a large, tender, fluctuating mass in Douglas's pouch. 37 days after admission a vaginal incision was made and about a quart of fœtid, greenish pus containing the typhoid bacillus in pure culture was removed. On introducing the finger cartilage and bone were recognised in the cyst wall, thus showing that the cyst was teratomatous. The temperature fell. It rose again in the following week but had lost its hectic character. There was a relapse of the typhoid fever; the spleen again became palpable and rose spots re-appeared. After recovery the cyst was removed by laparotomy. In Case 2 a woman, aged 30 years, began to show symptoms of typhoid fever on Dec. 1st, 1901. The attack was long and on the thirty-fifth day the temperature reached normal. On the thirty-seventh day it rose again to 102·2° F. in the evening. It fell to 97·4° next morning. In the next two days it oscillated widely—between 97·6° and 103·6°. On the tenth day of the supposed relapse there was a chilly feeling. On the twentieth day the temperature was a little over 100°. Next day there was pain on defecation and the lower portion of the abdomen on the left side bulged a little. On the twenty-fourth day vaginal examination revealed bulging in Douglas's pouch. Pelvic abscess was diagnosed, laparotomy was performed, and a large left ovarian cyst containing grumous, offensive pus was removed. The pus contained the typhoid bacillus in pure culture. The temperature fell to 99°. On the morning of the fifth day after the operation the temperature rose to 104°. Subsequently it remained at about 102°. A rose spot appeared seven days after the onset of the pyrexia. The relapse ran a course of 14 days. It is remarkable that in both cases the relapse occurred five days after the operation. In the other recorded cases no relapse followed the operation and convalescence was uneventful.

OFFICIAL REGISTER OF VACCINATION PARTICULARS IN CASES OF SMALL-POX.

IN a leading article in THE LANCET of Oct. 4th, p. 941, we referred to a series of circulars regarding small-pox prevention and vaccination administration which have been issued lately by the Local Government Board. To these is now added another, dated Oct. 28th, 1902, dealing with the manner in which records of the vaccination of small-pox patients should be kept at hospitals maintained by district councils, joint hospital boards, or isolation hospital committees in England and Wales. It is pointed out that at present such variation exists in the form in which vaccination particulars are noted that the experience of different hospitals cannot be utilised for purposes of statistics and comparison, and that uniformity in the matter is the more necessary in view of the obligation to keep vaccination records which has been imposed upon small-pox hospital authorities by Section 8 of the Vaccination Act, 1898. Accordingly the Local Government Board has issued a form of register of small-pox patients prepared by its medical officer, together with a "vaccination bedcard" which is to be used for noting at the bedside the particulars which afterwards will be entered in the register. Though at first sight this bedcard is a formidable document to complet fo each case it appears when studied to be a simple and convenient means of record. Mr. W. H. Power has set out on these cards a scheme of classification as regards vaccination, revaccination, and previous small-pox, and in most instances nothing more will be needed than to indicate in the appropriate spaces the position which the individual case occupies in this scheme. As regards primary vaccination, the basis of classification is the presence or absence of cicatrices; the statement of the patient or his friends, the age at vaccination, and the number and area of scars being also recorded. Broadly the scheme in this respect follows that which has for many years been adopted at the Metropolitan Asylums Board small-pox hospitals and is used in the tables given in the annual reports of that Board's Statistical Committee. In the rare instances in which a small-pox case is stated to have been at some time or other successfully revaccinated it is unfortunately impossible to obtain any certain check on the statement from cicatrices. Accordingly, in cases alleged to have been revaccinated, the patient's statement has been made the primary basis of classification. Mr. Power appears to have considered that where possible revaccination is in question the better plan is for the whole of the evidence

available as regards the circumstances and success of the operation to be set down in detail. There is much to be said in favour of this course. Such cases are few in number and it is particularly desirable to know all that can be ascertained about them. The scheme keeps cases in which vaccination or revaccination has been performed during the incubation period of small-pox separate from other vaccinated or revaccinated cases. This also is important, as we have occasionally met with instances where statistics have been confused owing to neglect of this precaution. Although it appears from the Local Government Board's circular that the adoption of the vaccination bedcard and register is recommended rather than made obligatory on hospital authorities we do not doubt that they will be welcomed by medical officers of small-pox hospitals and that they will be generally substituted for the diverse forms at present in use.

THE FOOD INSPECTOR ON CIRCUIT.

THE system of collecting samples under the provisions of the Sale of Food and Drugs Act is not entirely satisfactory owing to the inspector appointed for the purpose becoming well known by those upon whom he calls. Even when he sends an unofficial-looking and temporary deputy into a shop to make the purchase the inspector must be near to complete the bargain already begun. Again, it is well known that the proportion of adulterated samples amongst those brought by private persons is considerably higher than in those taken in an official way, although probably in the former case the samples are obtained after a suspicion had been entertained. Still, there can be no doubt that to some extent it is discovered when the inspector is paying calls and that tradesmen keep a sharp look-out at this time. Not long ago it happened that an inspector of a certain district ventured to take a sample in a district outside his jurisdiction with the result that the sample proved to be adulterated. This instructive incident would seem to suggest that the inspectors of the metropolitan districts, at any rate, might now and again change places with advantage. A periodical change of inspector in any given district would be sure to have a salutary effect, and then the returns of the annual report of the Local Government Board might possibly show a higher rate of adulteration. At present it is doubtful whether the returns approach the truth as to the real extent of adulteration that is going on.

CHOLERA IN EGYPT AND ELSEWHERE.

THE following figures show the distribution of cases and deaths from cholera throughout Egypt during the week ending Oct. 20th. 685 cases of cholera were reported, against 819 in the previous week, thus showing a diminution of 134 cases. 475 persons were found dead out of hospital and 147 died in hospital, against 513 deaths out of hospital and 259 deaths in hospital during the previous week, thus showing a total diminution of 150 deaths. During the same period 15 cases occurred in Cairo and 60 in Alexandria, against 11 in Cairo and 65 in Alexandria during the previous week. During the week ending Oct. 27th 415 cases of cholera were reported against 685 in the previous week, thus showing a diminution of 270 cases. 240 persons were found dead out of hospital and 116 died in hospital, against 475 deaths out of hospital and 147 deaths in hospital during the previous week, thus showing a total diminution of 266 deaths. During the same period nine cases occurred in Cairo and 45 in Alexandria against 15 in Cairo and 60 in Alexandria during the previous week. Our Constantinople correspondent, writing on Oct. 27th, says: "Cholera is raging in the south of Syria. I do not know if all the villages around Gaza and Jaffa are infected, but certainly almost all of them are. More than 700 deaths from cholera have already been registered. It is stated that the necessary steps to check the epidemic are already taken. In Medina cholera still continues and several deaths from that disease have been registered. In the Yemen the same epidemic rages and there, too, deaths from cholera are registered."

THE PREVALENCE OF SMALL-POX.

THE Local Government Board for Scotland intimates that during the period from Oct. 16th to 31st inclusive four cases of small-pox have been notified to it—viz., one in the burgh of Edinburgh and three in the burgh of Arbroath. At a meeting of the managers of the Metropolitan Asylums Board held on Nov. 1st it was reported that during the fortnight ended Oct. 30th only six new cases of the disease had been notified.

THE DIAGNOSIS AND PATHOLOGY OF LANDRY'S PARALYSIS.

LANDRY'S paralysis has long remained an obscure disease of the nervous system and its position in the nosological scale is still disputed by some. In the *Journal of Nervous and Mental Disease* for October Dr. Theodore Diller gives a report of three non-fatal cases and publishes certain new observations which apparently define its position in regard to two other better-known nervous affections—viz., multiple neuritis and acute bulbo-spinal poliomyelitis. All the three cases occurred in males, aged respectively seven and a half, 21, and 25 years. The symptoms generally consisted in these cases of a paralysis of sudden onset, beginning in the legs and involving soon afterwards the upper limbs. The paralysis was of the flaccid type and the knee-jerks were lost on both sides. The disease ran an afebrile course and there was no pain. The pupils reacted normally and were equal and, apart from slight diplopia, there was no serious ocular trouble. The optic discs were free from neuritis. The muscles affected did not undergo any atrophy and their electrical reactions were normal or slightly enfeebled quantitatively, but there was no qualitative modification in the form of "inverted reaction" to faradic and galvanic stimuli. From an exhaustive discussion of the clinical and etiological data Dr. Diller reaches the following conclusions regarding Landry's paralysis. First, that all observations concur in indicating that this paralysis is due to an infection or toxæmia. Secondly, that this view is borne out by the acute onset and rapid course of the disease, by the frequent enlargement of the spleen and lymphatic glands in cases collected from medical literature, and by the presence of bacteria in the few cases bacteriologically examined post mortem in recent years. Thirdly, that inquiry into its etiology shows that it may be the result of many causes, such as lead poisoning, carbon monoxide poisoning, diphtheria, influenza, malaria, and typhoid fever. Fourthly, that no age or sex is exempt from it, though it affects males more often than females. Lastly, that in mild cases there is no organic destruction of the nerve structures, whereas in cases terminating fatally the lesions are sometimes mainly restricted to acute degeneration of the motor cells of the bulbo-spinal cord (poliomyelitis) and in other cases to the peripheral nerves (multiple neuritis), while in a few cases both lesions are met with, thus indicating the close affinity of Landry's paralysis to multiple neuritis and poliomyelitis.

THE next general meeting of the Medico-Psychological Association of Great Britain and Ireland will be held on Thursday, Nov. 20th, at 11, Chandos-street, W., at 3 P.M. After the general meeting an address will be given by Sir William R. Gowers, entitled "Sanity and Insanity—Lunacy and Law"—the views of a London hospital physician, particularly in regard to private patients. After which the following papers will be read: Dr. W. Lloyd Andriezen on

the Pathogenesis of Adolescent Insanity and Dr. Edwin Goodall on the Case (with Anthropometric Observations) of an Unrecognised Degenerate—punished by the Law. The members will afterwards dine together at the Café Royal, Regent-street, W., at 7 o'clock.

A FESTIVAL dinner to celebrate the jubilee of Trinity University, Toronto, will be held at the Hotel Cecil on Monday, Nov. 17th, at 7 P.M. Graduates of the university and others who are interested in Trinity College, Toronto, are asked to give the reunion their support. Sir Gilbert Parker, M.P., will take the chair, and tickets may be obtained from Dr. E. N. Féré, 12, Northampton-square, E.C., and from Dr. J. M. Cochrane, 10, Weymouth-street, Portland-place, W., price 10*s.* 6*d.*, exclusive of wine.

THE executive committee of the Cancer Research Fund have selected Dr. E. F. Bashford, assistant to Professor Sir T. R. Fraser of Edinburgh, from amongst the numerous applicants for the post of superintendent of cancer research. Dr. Bashford, who has recently been engaged in research work in Professor Erhlich's laboratory at Frankfürt, and who is acquainted with the cancer research work now going on in Germany, will forthwith enter upon his duties.

THE Edinburgh University Club will dine at the Criterion Restaurant on Wednesday, Nov. 12th, at 7.30 P.M. Dr. William Hunter will occupy the chair and a good attendance of members of the club and guests is expected. Members intending to be present or to introduce guests should notify one of the secretaries, Dr. James Taylor, 49, Welbeck-street, London, W., or Dr. G. A. Sutherland, 73, Wimpole-street, London, W.

DR. J. C. THRESH, county medical officer of health of Essex, has convened a conference to discuss the causes of the excessive infantile mortality in certain parts of Essex. Several sanitary authorities have appointed delegates and the meeting will be held at 3 P.M., on Wednesday next, Nov. 12th, at the Lecture Room, Nurses' Home, Beechcroft-road, Leytonstone. Mr. T. F. Victor Buxton will preside.

THE annual dinner of the staff and past and present students of the Royal Dental Hospital of London will be held on Saturday, Nov. 22nd, at the Whitehall Rooms of the Hôtel Métropole, under the presidency of Dr. A. W. W. Baker, F.R.C.S. Irel., L.D.S. Eng. Gentlemen desiring to be present are requested to communicate with the Dean at the Royal Dental Hospital, 32, Leicester-square, London.

THE Harben Lectures of the Royal Institute of Public Health will be given in King's College, London, on Monday, Tuesday, and Wednesday, Nov. 10th, 11th, and 12th, at 5 P.M., by Major Ronald Ross, C.B., F.R.S., lecturer on tropical diseases in University College, Liverpool, who has taken for his subject Intermittent Fever. All who are interested are invited to attend.

THE November dinner of the Aberdeen University Club in London will be held at the Trocadéro Restaurant, Shaftesbury-avenue, W., on Wednesday, Nov. 19th, at 7 P.M., Lord Strathcona being in the chair. Members desiring to be present should communicate with the honorary secretaries, Dr. James Galloway and Dr. J. Malcolm Bulloch, at 54, Harley-street, W.

AN address will be given to the King's College Hospital Medical Society by Sir William J. Collins, M.D. Lond., F.R.C.S. Eng., on Friday, Nov. 14th, entitled "The Housing Question in London." Any interested in the subject are invited to be present. The meeting will be held at the hospital at 8 P.M.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary Comitia was held on Oct. 30th. Sir W. S. CHURCH, Bart., K.C.B., the President, being in the chair.

The PRESIDENT announced that Mr. John Webster Bride had been appointed the tenth Jenks Scholar. He also stated that Sir Richard Douglas Powell, who was to have represented the College at the forthcoming Egyptian Medical Congress, was unable to leave England at the time when the Congress was to be held. The President asked permission of the College for himself to nominate a representative; this was granted.

The following gentlemen having passed the required examination were elected Members of the College: William Lawrence Ascherson, M.B. Cantab.; Charles Bolton, M.D., L.R.C.P. Lond.; Robert Joseph Dwyer, M.B. Toronto, L.R.C.P.; Herbert Stanley French, B.A., M.B. Oxon.; and Llewelyn Leonard Bulkeley Williams, M.D. Glasg.

Licences were granted to 118 gentlemen who had passed the required examination.

The following communications were received: 1. From the Home Secretary announcing the presentation to the King of an Address of Congratulation from the College to His Majesty on his recovery from his recent illness. The King has been graciously pleased to accept the same.—2. From the Board of Trade, forwarding a report on the results of an inquiry by the Norwegian Government respecting beri-beri occurring on European sailing ships. The Senior Censor (Sir R. DOUGLAS POWELL) proposed, and the Second Censor (Dr. G. VIVIAN POORE) seconded, that having regard to the importance of the subject it was desirable that the College should ask for the Government report and Professor Uckermann's paper from the Board of Trade. This proposition was carried.—3. From the Royal College of Surgeons of England reporting certain proceedings of the Council.—4. From the secretary of the International Congress of Medicine at Madrid, April, 1903.—5. From Mr. W. H. Power, thanking the College for the award of the Bisset Hawkins medal.

After some discussion in regard to the manner in which the appointment should be made Dr. F. H. Champneys was appointed a member of the Central Board under the Midwives Act of 1902. Sir William Church was re-elected as the representative of the College on the council of University College, Bristol.

The audited accounts for the year ending Sept. 29th last were received and adopted. The quarterly report of the Finance Committee was received and adopted.

Reports were received from Dr. J. F. Payne, the representative of the College at the Bodleian Tercentenary Commemoration at Oxford, and from Dr. J. J. Pringle, the representative of the College at the Second International Conference at Brussels on the Prevention of Syphilis.

Two reports were received from the committee of management. Amongst various matters dealt with it was recommended that the following institutions should be added to the list of those recognised by the Examining Board in England for instruction in chemistry, physics, and practical chemistry; the County Technical School, Stafford; the Technical Institute, Wandsworth; and the Wedgwood Institute, Burslem. This recommendation was adopted.

Dr. E. Liveing was re-elected a member of the committee of management and Dr. W. D. Halliburton was re-elected a member of the laboratories committee. After some further formal business the PRESIDENT dissolved the Comitia.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Oct. 28th, at 20, Hanover-square, London, W. The address of the President, Sir W. J. Collins, M.D., L.C.C., consisted of a history of medical jurisprudence from the time of the Romans up to the present day and especially dealt with actual problems. The address was much appreciated and a cordial vote of thanks to the President was passed, proposed by Mr. C. H. Hopwood, K.C., and seconded by Sir James Crichton Browne. The next meeting of the society will be held on Dec. 9th. The honorary secretaries of the society are Mr. R. Henslowe Wellington of 2, Essex-court, Temple, E.C., and Dr. W. McCallin.

THE FIRST INTERNATIONAL CONFERENCE ON TUBERCULOSIS.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1215.)

As mentioned in THE LANCET of Nov. 1st the principal event of the third day of the Conference (Oct. 25th) was the discussion on Professor Koch's theory that bovine tuberculosis is not transmissible to the human subject. On the forenoon of that day, on the invitation of Professor Koch, the members attending the Conference visited the new buildings of the Infectious Diseases Institute which is in connexion with the Rudolf Virchow Hospital.

SATURDAY, OCT. 25TH: FIRST MEETING.

On the assembling of the Conference at 11 A.M. the chair was at first taken by Professor SCHERWINSKY of Moscow and afterwards by Professor ESPINA Y CÁPO of Madrid. The general secretary (Professor PANNWITZ of Berlin) read replies to the telegrams which had been sent on behalf of the Conference to the sovereigns and presidents of the States represented at the Conference. Replies had been received from the German Emperor, the King of England, the King of Sweden, the King of Denmark, the King of the Belgians, the President of the French Republic, and the President of the Swiss Republic. Professor PANNWITZ then announced that H.M. the German Empress would receive a limited number of members of the Conference in the afternoon.

Tuberculosis in Children.

Dr. ANDVORD of Christiania said that in the majority of cases tuberculosis developed between the ages of 20 and 25 years. As the interval between the reception of the infection and the manifestation of the disease in an individual was somewhat long a potential capacity for the development of tuberculosis must obviously have existed in childhood. Children ought therefore to be protected against infection by the removal of actually tuberculous patients to sanatoriums. Sanatorium treatment ought to be resorted to more often than hitherto; at least its principles ought to be applied at home, and the propagation of this idea would be one of the most important results of school hygiene.

Professor EGGER of Basle described the measures taken in that town to prevent infantile tuberculosis. He said that tuberculosis in children often assumed forms which were unfit for sanatorium treatment, as, for instance, tuberculous meningitis. Prophylaxis was therefore more necessary for children than for adults. Success was only obtained when tuberculous children were treated at an early date and during considerable periods of time. As long as there were no bacilli discharged either from the lungs or from tuberculous diseases of the bones or joints, the children might be treated in convalescent homes or other institutions, but if bacilli were present in the discharges the children would have to be placed in special sanatoriums. In the sanatorium of Basle 500 children were treated from 1899 to 1902, and of this number 46 suffered from tuberculosis of the joints and bones, of whom 22 were cured and 18 were improved.

Dr. DERBCQ of Paris remarked that the period of convalescence after acute diseases was specially susceptible to infection. Prophylactic measures should therefore be taken in this stage.

Various Kinds of Accommodation for Consumptive Patients.

Dr. ARMAINGAUD of Arcachon described the excellent results obtained at seaside sanatoriums, of which there were 14 in France. A stay at a seaside sanatorium was specially favourable: (1) for weak, lymphatic, and scrofulous persons who nearly all recovered; and (2) for patients suffering from affections of the bones and joints formerly described as scrofulous but now ascertained to be tuberculous; such patients mostly recovered if treatment was begun at an early stage and continued for a sufficient time. The *traitement marin*, by improving the nutrition, overcame the susceptibility to tuberculous infection and made the organism more resistant against the attacks of the bacilli.

Professor EWALD of Berlin said that he entirely agreed with the views of Dr. Armaingaud and that similar results had been observed by him in the German seaside sanatoriums for children.

Dr. WOLF BECHER of Berlin gave a report of the institutions known as Erholungsstätten established by the Red Cross Association. Their principal feature was that the patients stayed there only during the day to enjoy fresh air in a wood and to take milk and suitable nourishment in accordance with the directions of their medical attendants. In the evening the patients returned home by train, and the Erholungsstätten must therefore have good railway communication with a town. There were now five of these institutions ranged at intervals round Berlin so that for nearly every quarter of the city there was an Erholungsstätte accessible without much delay. They were principally intended for members of sick clubs under the workmen's insurance laws; the members during their stay there were supported by the club, railway fares and extra diet being, moreover, provided for them. A great many consumptives who had been selected for treatment in sanatoriums but had to wait for admission were nursed there. They of course were better cared for and better nursed there than in their own homes—the dwellings of the poorer class being in Berlin, as in other towns, somewhat unsatisfactory from a hygienic point of view. Another class of patients attending the Erholungsstätten consisted of those who had already been in a sanatorium but could not be readmitted owing to want of room; others went to these places to complete the treatment begun at the sanatorium. The Erholungsstätte also enabled medical men to select cases suitable for sanatorium treatment and was also a refuge for incurables. The patients were instructed there by nurses and medical men as to the way in which they should live at home and as to the measures to be taken against infection. The results obtained had shown that the influence of the Erholungsstätten had been very beneficial. It was, of course, a drawback that, at least in the chilly climate of Berlin, these institutions were open only during the summer months; but, on the other hand, there was this in their favour, that they were by no means expensive, for the Erholungsstätte required only a plantation of trees or a portion of a wood which might be either public or private property. This ground was fenced in and some buildings were erected, consisting of a kitchen and huts where the patients could take shelter in the event of a sudden change of weather. Moreover, an almost unlimited number of patients might stay there and admission, which was obtained by order of a medical man, might be accomplished with very little delay (in from 24 to 48 hours) and without the formalities required for admission into sanatoriums. The next step of the Red Cross Association would be the establishment of Erholungsstätten for children.

Professor ESPINA Y CÁPO explained his views on the places to be chosen for sanatoriums in the neighbourhood of great towns.

Professor VON LEUBE of Würzburg spoke on the accommodation of tuberculous patients in general hospitals. He said that the best thing would be to remove those patients from the general hospitals to special institutions but that financial reasons rendered this impracticable. The sanatoriums were at present reserved for curable cases only and they declined to admit incurables. This system, though unavoidable in view of the objects of sanatoriums as at present existing, involved a certain amount of cruelty to the incurables, who felt themselves, as it were, condemned to death. A good deal might, however, be done in the general hospitals for these unfortunates so that they might not altogether lose hope. In the Würzburg General Hospital the consumptives were, of course, isolated from the other patients to avoid infection, but the wards which had most air and sunshine were reserved for them and were termed "hospital sanatoriums" in order to persuade the patients that they were in an institution where recoveries were still possible. A special part of the hospital garden was set apart for them exclusively where they might have the advantage of open-air exercise. In the event of a reconstruction of a hospital he recommended the erection of pavilions for these patients with a south exposure and situated at the boundaries of the hospital grounds.

Dr. SCHAPER, medical director of the Charité Hospital of Berlin, said that the new buildings of that hospital would include such pavilions which were like a sanatorium on a small scale. The death-rate from tuberculosis, notwithstanding the unsatisfactory condition of the old premises, had already decreased by 15 per cent.

Dr. VON UNTERBERGER of St. Petersburg also recommended that small sanatoriums should be established within, or in connexion with, general hospitals. The results were not

worse than in special sanatoriums and, moreover, an opportunity was afforded of training students and medical men in the early diagnosis of phthisis.

SECOND MEETING.

In the afternoon meeting the chair was taken at first by Professor FRÄNKEL and afterwards by Dr. C. THEODORE WILLIAMS of London. The subject of discussion was

The Relation between Human and Animal Tuberculosis.

Dr. KOHLER, president of the Imperial Health Office, presented a report on the present state of the question. At the request of Professor Koch a commission had been appointed by the Imperial Health Office for the investigation of the identity or non-identity of human and animal tuberculosis; its work was not yet finished, but he wished to state that the bacilli of tuberculosis have been found to grow much faster than those of perlsucht (bovine tuberculosis). It was a question whether a person might contract tuberculosis by drinking milk from tuberculous cows; practically the danger of infection in this way was rather small as appeared from the paucity of cases of intestinal tuberculosis hitherto observed. He then alluded to an experiment of Professor Baumgarten; cancer and tuberculosis being believed to be diseases having antagonistic or incompatible tendencies he had inoculated bacilli of perlsucht into patients suffering from cancer in the hope of checking the growth, but this experiment had failed. It is, moreover, a striking fact that butchers and other persons having to deal with tuberculous cattle seldom contract consumption. Further researches and experiments are necessary to elucidate the question and there ought therefore to be no relaxation of prophylactic measures, such as the slaughter of tuberculous cattle, the boiling of milk, &c.

Dr. NOCARD of Alfort insisted on the possibility of perlsucht being conveyed to human beings by the drinking of milk given by a cow with a tuberculous lesion of the udder. Persons whose food consisted for the most part of milk were especially liable to contract tuberculosis in this way. Cows with tuberculous lesions of the udder ought therefore to be removed from dairy herds and cow-houses and the public ought to be taught to abstain from drinking unboiled milk.

Professor ARLOING of Lyons said that the opinion that tuberculosis and perlsucht were the same thing was gaining ground notwithstanding the views of Professor Koch and Professor Schütz. He believed (1) that human tuberculosis might be communicated to cattle and other herbivorous domestic animals in which it showed the characteristic features of perlsucht; (2) that a bacillus might be of unequal virulence for different species of herbivorous animals; (3) that in some cases the bacillus of human tuberculosis was just as virulent as the bacillus of perlsucht; (4) that in other cases the bacillus of human tuberculosis was practically of little virulence for cattle; (5) that bacilli of small virulence, when injected into the veins, always produced lesions in the lungs visible by microscopical examination and tending to fibrous transformation; (6) that it is impossible to say if an inoculation has failed without a microscopical examination of the lungs and the viscera; and (7) that the variability of the virulence of the bacilli has obviously led Professor Koch and Professor Schütz to their belief in the non-identity of the bacilli of tuberculosis and perlsucht. Professor Arloing then gave reasons for questioning the opinion that, even if the bacilli of human tuberculosis were capable of producing tuberculosis in cattle, they nevertheless lose their infectious power in passing through these animals. He mentioned a case where a culture of human tuberculosis had preserved its virulent action during four passages through calves. According to Professor Koch it was characteristic of tuberculous lesions of the intestines caused by bovine tuberculosis that bacilli from them when inoculated into cattle by subcutaneous injections produced general tuberculosis in the animals, whilst the bacilli of human tuberculosis failed to have that effect. Professor Arloing stated that this was not a characteristic symptom, as the injection of bacilli of bovine tuberculosis very seldom produced general tuberculosis.

Professor WOLFF of Berlin described a successful inoculation of a calf with tuberculous material from the human subject, as already mentioned in THE LANCET of August 23rd, 1902, p. 559.

Dr. BANG of Copenhagen stated that by inoculation of bacilli of human tuberculosis into the anterior chamber of the eye of calves he had produced tuberculosis of the iris without other manifestations of the disease. He inferred therefore that human tuberculosis was of little virulence for calves.

Professor HÜPPE of Prague, Professor BAUMGARTEN of Tübingen, Dr. MÖLLER of Belzig, Dr. WESTENHÖFER of Berlin, and Dr. ALFRED P. HILLIER of London also took part in the discussion.

Professor KOCH, in replying to the arguments adduced against his theory, pointed out that primary tuberculosis of the intestines was extremely rare. The pathological institutes of all the German universities had been requested by the Health Office to give notice of any such case discovered by necropsy. Only one case, however, was discovered—namely, the one to which Professor Wolff had already alluded, and which was examined by Professor Koch also with the result that his deductions and inferences were quite different from those of Professor Wolff. The infections of the fingers observed in butchers were local processes only and were so insignificant that no surgical treatment was required; they always healed spontaneously and were never followed by general tuberculosis. If infection by tuberculous meat were a frequent event an epidemic of perlsucht must have been observed as the flesh of tuberculous cattle was consumed every day by a great many persons, especially in the form of sausages. The same was the case with milk, the bacilli of perlsucht not being destroyed by mere boiling. Of 28 cases described in medical literature where the infection had been ascribed to perlsucht there were only three in which the milk was ascertained to have come from cows suffering from tuberculosis of the udders and in no instance could the possibility of an infection by other ways be excluded. He was of opinion that the severe measures concerning perlsucht prescribed by the sanitary laws were not justified and that the money required for that purpose would be better spent in building sanatoriums and improving the dwellings of the poor. People were not liable to contract tuberculosis through the medium of their food.

SUPPLEMENTARY MEETING (OCT. 26TH).

As the other addresses which stood on the order of the day could not be proceeded with owing to the lateness of the hour an additional meeting was held on Sunday, Oct. 26th, at 11 A.M., Professor VON LEYDEN being in the chair.

Institutions for Incurable Consumptives.

Herr GEBHARD, president of the Lübeck Institution for the Insurance of Working Men against Sickness, read a paper on Asylums for Incurable Consumptives. An asylum of this kind had been established by the above institution; at present it could receive 30 patients only but it would be enlarged sufficiently for the accommodation of 200. It was essential to isolate the patients as much as possible, therefore large wards with many beds must be avoided; the best plan was to have a series of pavilions of a home-like appearance. There must be plenty of ground to allow the patients to be in the open air. Such asylums were rather expensive as the patients might have to be kept there for several years.

Dr. FREUND, president of the Berlin Institution for Workmen's Insurance, stated that a similar asylum was established by him at Lichtenberg. Contrary to general opinion the consumptive patients were quite willing to go there and did not become low-spirited through residence in an institution the inmates of which had no more than a relatively short expectation of life.

Classification of Tuberculosis.

Dr. TURBAN of Davos said that the prognosis of consumption chiefly depended on the extension of the disease in the lungs. For classification a scheme as simple as possible was required and the following definitions had been proposed by him: first stage, slight lesion of one lung; second stage, slight lesion of both lungs or serious damage of one; and third stage, marked conditions exceeding the above in severity. This scheme, already adopted by the majority of authorities, might become the basis of an international agreement. Moreover, an agreement with regard to technical terms and also with regard to the methods followed in physical examination of the lungs was necessary.

Dr. THEODORE WILLIAMS expressed the opinion that classification ought to be founded on: (1) the history of the case; (2) the state of the lungs; and (3) the condition of the expectoration. It must be specified whether the course of the disease was acute or chronic and whether infiltrations of the lungs or cavities were present or not.

The number of bacilli was immaterial. Patients whose sputum contained few bacilli might die within a few weeks, while others with a large number of bacilli might be chronic cases. Koch's discovery of the tubercle bacillus had enabled the diagnosis of tuberculosis to be made with facility and certainty but the stage of the disease could not be inferred from the number of bacilli.

Dr. SAUGMANN of Vejlefjord in Denmark delivered an address urging that the campaign against consumption must not be allowed to become a campaign against the consumptives. He said that the public had become very much alarmed by the statement that infection might be conveyed by minute particles of sputum. This apprehension, he considered, was unfounded and all danger might easily be avoided by simple precautions. It had not been proved that infection was caused by particles ejected on coughing. If this were so specialists for diseases of the throat and larynx ought to be very liable to contract the disease, for in making laryngoscopic examination they were in close contact with patients actually coughing up matter containing tubercle bacilli, but experience showed that the tuberculosis mortality of these gentlemen was low. There was therefore no reason to recommend such measures as had been proposed by Professor Flügge—namely, the use of partitions for the separation of individuals employed in workshops and offices. The anxiety of the public had already led to the suggestion that consumptive patients ought to be isolated as if they were lepers.

CONCLUDING EVENTS.

The business of the Conference was now formally declared to be at an end. Dr. STUDT, the Minister of Education, expressed the thanks of the Government for the valuable work done by the Conference in popularising information with regard to tuberculosis and Professor BROUARDEL replied.

The committee of the Conference met on Oct. 26th to discuss some questions of organisation and to elect honorary members of whom the following are Englishmen: Sir William Broadbent, Dr. Blyth, Dr. Heron, Sir Hermann Weber, and Dr. Williams. Professor Pannwitz will continue to act as general secretary of the organisation, aided by some honorary secretaries belonging to different nations.

An exhibition of articles and objects of interest in connexion with questions relating to tuberculosis was open during the meeting of the Conference. It was divided into departments dealing with: (1) history; (2) dissemination; (3) etiology; (4) prophylaxis; (5) treatment; (6) scientific researches; (7) sanatoriums and hospitals; and (8) diffusion of information.

The members of the Conference were entertained at dinner on the evening of Oct. 25th. The toast-list included the following items: "The Empress," by Professor BROUARDEL, "The Sovereigns and Presidents of the States represented at the Conference," by Baron VON DEM KNESEBECK, and "The Foreign Guests" by Professor FRÄNKEL.

On the invitation of Professor Behring a party of about 20 members proceeded to Marburg on Oct. 26th and spent the following day in inspecting the Marburg Institution for the study of the tuberculosis of cattle. They were shown over the splendid institution, and addresses were delivered there by Professor Behring and his assistants. The party included Dr. Nocard, Professor Letulle and Professor Petit of Paris, Dr. Calmette of Lille, Professor von Schrötter of Vienna, Professor Scherwinsky, Dr. Turban, and others.

FOURTH INTERNATIONAL CONGRESS OF OBSTETRICS AND GYNÆCOLOGY AT ROME.

SEPT. 15TH TO 21ST, 1902.

FIRST DAY.

THE first of the four themes selected for discussion by the Congress—namely, the Medical Indications for the Interruption of Pregnancy—was introduced by Professor HOFMEIER of Würzburg in a paper devoted to the indications in kidney disease. His conclusions were as follows: 1. Interference is required in chronic nephritis whenever the secondary symptoms, in spite of appropriate treatment, grow worse instead of better, and without regard to the stage of the pregnancy. 2. Interference is also called for in the so-called "kidney of pregnancy" in view of the danger of eclampsia when ordinary treatment proves unavailing and symptoms go on increasing in severity. 3. In acute nephritis, on the contrary, in view of the possibility of resolution of the inflammation and of the slight effect exercised upon the occurrence of eclampsia, intervention is contra-indicated.

Dr. PINARD of Paris followed with a sketch of the history of Artificially induced Abortion and Premature Labour, referring to the legal and religious aspects of the question. He pointed out how the action of the obstetrician was hampered by such considerations and pleaded for his absolute right to decide and to act without reference to the religious scruples and still less to the wishes of the patient who is often in a semi-conscious state and for the time being incapable of reasoning calmly. He laid down the following general indications for interference: 1. Diseases arising from the pregnant condition—e.g., uterine hæmorrhage, dropsy of the amnion, uterine moles, and intoxications of pregnancy (including obstinate vomiting, albuminuria, epileptiform convulsions, toxic neuritis, &c.). 2. Chronic maladies aggravated by the pregnant condition, such as diseases of the circulatory, urinary, or respiratory apparatus. In hæmorrhage the indication is precise and urgent when the pulse-rate exceeds 100 per minute. In hydramnios interference is called for when the mother presents one of the following conditions: (1) œdema more or less marked and diffuse with dyspnœa, orthopnœa, or cyanosis; and (2) rapid distension of the uterus, severe costo-abdominal or diaphragmatic pains, dryness of the skin, cachexia, marked emaciation, diminution of urinary secretion to 500 or 600 grammes in 24 hours (acute or febrile hydramnios). The need for intervention in a pregnancy with eclampsia did not appear, Dr. Pinard thought, to be sufficiently demonstrated. In regard to chronic diseases aggravated by pregnancy he considered that intervention in cases of cardiac affections was more successful in the first than in the second half of the period of gestation and that the more rapidly the uterus was evacuated the more efficacious was the operation. In urinary affections it was not as a rule indicated unless the urine diminished below 1000 to 800 grammes, but in pyo-nephritis the difficulty of micturition or the general condition of the patient might alone be such as to necessitate interference. In diseases of the respiratory organs it was only in tuberculosis that the question could arise. The duty of the obstetrician in such a case was to treat the tuberculosis and simply to watch the pregnancy. In conclusion, he gave a table showing his experience in Baudelocque's clinic in regard to the interruption of pregnancy over a period of 10 years among 22,703 women; intervention was judged necessary in 20 and was successful in 15.

Dr. REIN of St. Petersburg summed up his views as follows (1) Induced labour was one of the most favourable and most useful of obstetric operations; (2) it gave results as favourable for the child as for the mother, the mortality and morbidity in connexion with this operation being practically *nil*, (3) as regards medical indications for intervention these were frequently furnished by renal and cardiac affections; (4) speaking generally, these medical indications should be acted upon more frequently than had hitherto been the practice; and (5) in grave eclampsia occurring in the course of pregnancy the surgeon is justified under certain conditions in substituting Cæsarean section for induction of labour.

Professor SCHAUTA of Vienna formulated his conclusions on the subject of intervention in great detail, passing in review a long list of maladies in which the question might arise. In regard to the greater number of these he advised interference only when the symptoms became so alarming that the life of the mother was evidently in danger. In chorea, however, he would intervene in the milder forms during the first eight months of pregnancy, but only as a last resource in the grave forms where parturition, especially in the advanced stages of gestation, was very injurious. In certain early cases of tuberculosis he would also counsel interference, especially in the laryngeal form, and in slight cases where the disease was making rapid progress, even near the end of pregnancy. In miliary tubercle labour should be induced as soon as the fœtus was viable. In cardiac affections with compensation he would interfere only when in a previous pregnancy the cardiac condition had placed the patient's life in serious danger. In

mitral stenosis a small deficiency in compensation was sufficient to justify intervention. Where there were no compensation and no prospect of obtaining it by therapeutic means it was best to interfere at once. In diabetes he would interrupt pregnancy in the early months but not in the second half unless the quantity of sugar was excessive.

Professor A. R. SIMPSON of Edinburgh classed the indications for interrupting pregnancy under the two heads of fœtal and maternal. As fœtal indications he regarded habitual death of the fœtus and habitual excessive development of it. The indications from the side of the mother might arise in two categories of patients: (1) in those with some pre-existing or some intercurrent disease the dangers of which modified, or were modified by, the pregnancy; and (2) in women in whom the development of the pathological conditions bore a direct relationship to the pregnancy. Speaking generally, all cases falling under the first of these categories must be carefully watched and an opportune moment presenting a minimum of local or constitutional disturbance should be chosen for intervention. Interference might be called for, (1) in affections of the nervous system, especially chorea, when the life of the mother and of the child was threatened by them; (2) in certain affections of the circulatory apparatus, especially cardiac diseases without compensation, except where there was excessive ischæmia or pernicious anæmia; (3) in certain affections of the respiratory system (here, however, they must distinguish between acute conditions where interference is very rarely indicated and chronic forms where, especially in tuberculosis, it might be necessary in the interests of the child); (4) in certain other affections, such as acute atrophy of the liver and peritonitis, but only very rarely; and (5) in affections of the genital organs, especially tumours. In some of these cases a timely operation might obviate the need for interference; others required close watching; whilst in a few cases intervention might become a necessity. With regard to the second category the indications were as follows: (1) obstinate vomiting, but only seldom; (2) hydramnios, but only when the symptoms became unsupportable and the withdrawal of amniotic fluid became a necessity; (3) placental hæmorrhages towards the end of pregnancy, especially if they recur (here intervention should be prompt in the interests of both mother and child); and (4) in the nephritis of pregnancy and its consequences. Here it might be necessary to interfere if the disease did not yield to a milk diet, or if complicated by other affections, or when eclampsia threatens.

In the general discussion which followed there took part Dr. HENROTAY of Antwerp, Dr. GUTIERREZ of Madrid, Professor W. J. SINCLAIR of Manchester, Dr. LA TORRE of Rome, Dr. BOSSI of Genoa, Dr. ZWEIFEL and Dr. KRÖNIG of Leipsic, Dr. TUSZKAI of Budapest, Dr. KÖHEGYI of Szeged, and Dr. DRAGIESCO of Bucharest. The speakers were on the whole well agreed as to the indications for interrupting pregnancy. Some difference of opinion existed in regard to tuberculosis but there was a general feeling that in practice each case must be judged upon its own merits and that it was impossible to formulate rules for intervention which would be universally applicable.

ASYLUM REPORTS.

Roxburgh, Berwick, and Selkirk District Asylum (Report for the year ending May 15th, 1902).—The average number of patients resident during the year was 314, comprising 143 males and 171 females. The admissions during the year amounted to 48—viz., 22 males and 26 females. Of these 33 were first admissions. Dr. J. Carlyle Johnstone, the medical superintendent, states in his report that owing to want of accommodation admission continues to be refused to all private patients except such as cannot possibly be provided for in other asylums or elsewhere. Among the patients admitted hereditary predisposition to mental disorder was ascertained to exist in 41 per cent. and suicidal tendencies were present in 43 per cent. Several patients of the latter class had made more or less determined attempts at suicide before they were sent to the asylum. The physical condition of the patients admitted was bad in 33 cases and very bad in four cases. Many of these suffered from some form or other of serious bodily disease and in many of them the condition was such as to require constant nursing and special medical treatment. The number of patients discharged as recovered during the year amounted to 20—viz., 10 males and 10 females, or 6·36 per cent. of the average number resident. The deaths during the year amounted to 11 or 3·5 per cent. as calculated on the same basis. Of the deaths one was due to cardiac disease, two each were due to pulmonary tuberculosis and general paralysis of the insane, four were due to senile decay, and the rest to other causes. In nine out of the 11 cases the cause of death was verified by post-mortem examination. "As the low death-rate indicates, the general health of the community has been good, and the institution has not been visited by influenza or other epidemic disorder." Recently the need for increase of accommodation for patients had become very pressing and a hospital for females was erected which afforded accommodation for 65 patients. Improvements were, and are still being, carried out in providing a larger laundry and more efficient means of heating and ventilation for the whole institution. An extension of the male wards has been planned to supply between 60 and 70 beds, and this plan will include a small building for the isolation of cases of fever or of tuberculosis. The plans have received the approval of the General Board of Lunacy and a commencement will, says Dr. Johnstone, soon be made with the building. Electric lighting of the institution has been decided upon as a necessary measure by the district board and arrangements are being made to effect the changes from gas lighting to electric lighting. Referring to the financial burdens imposed upon society in having to keep and to maintain large numbers of pauper lunatics in institutions devoted to the purpose Dr. Johnstone remarks that "in the great majority of cases the tendency to insanity is an inherited one; that is to say, in these cases the disease is purely the result of ill-assorted matrimonial unions." The prevention or restriction of such unions might be one of the most important factors in diminishing the growing burden of insanity. "It would be idle to preach Draconian measures to a squeamish generation which obstinately shuts its eyes to the plain teaching of nature, but it may be confidently asserted that if parents and guardians would display only one-tenth part of that consideration for posterity which the common breeder of stock devotes to securing a sound and healthy strain there would be no necessity to enlarge our asylums and the nation would cease to groan under its self-imposed burden of insanity." The Commissioners in Lunacy state in their report that the patients were quiet and orderly in behaviour, that much ability and conscientiousness were shown in the management of the asylum and in the medical treatment of the acutely insane, and that the medical case-books were found to be regularly and intelligently kept.

Baldovan Asylum for Imbeciles, Dundee (Annual Report for 1901).—The average number of patients resident during the year was 114, comprising 70 males and 44 females. The admissions during the year amounted to 26—viz., 16 males and 10 females. Of these all were first admissions. Dr. D. M. Greig, the medical superintendent, states in his report that the average age on admission was nine years, "a very suitable age in most cases, because before that imbeciles are not developed enough to receive full advantage from instruction and soon after that age they begin to be difficult to control. Between the ages of seven and 11 years is in most cases the best time for imbecile children to begin institution life." The patients admitted during the year were, on the whole, under the average physique even of imbecile children. The number of patients discharged during the year was five. One was removed at the request of the parents and the rest were all discharged on account of age, the average age of removal being 18 years. The deaths during the year amounted to 24, a large number and one never before reached in the long record of the asylum. Of the deaths one each was due to hydrocephalus, paraplegia, meningitis, cerebral atrophy, enteric fever, bronchitis, pneumonia, and broncho-pneumonia, six were due to epilepsy, and 10 to pulmonary and other forms of tuberculosis. "Considering the marked tendency which such children have to contract tuberculous diseases," says Dr. Greig, "10 is not an excessive number out of 24." The Commissioners in Lunacy state in their report that the wards and rooms were bright and well ventilated, that the condition of the patients as regards nursing, clothing, and cleanliness was highly satisfactory, and that the medical registers were found to be correctly kept. The institution had been till recently rather overcrowded but additional

wards were provided which have served to relieve overcrowding and to afford accommodation for further cases. The committee of directors states in its report that the additional wards above referred to form part of a new asylum which will shortly be completed. All the available capital at the disposal of the committee has been utilised to erect the new asylum and about £4000 have been borrowed to complete the furnishings.

MEDICINE AND THE LAW.

Five Years' Penal Servitude for a Quack.

THE case of the man Herring who was convicted at the last sessions at the Old Bailey, as recorded in THE LANCET of Nov. 1st, p. 1214, had as its result his conviction for manslaughter, for which he was sentenced to five years' penal servitude. Herring had been a clerk in the employment of a railway company, he had no sort or semblance of medical training or qualification, he pretended to be a medical man, going so far as to adopt the names of members of the medical profession. He was called in to attend a woman who was suffering from strangulated hernia—a condition which he had very likely never heard of; he said that she had inflammation and he continued to pretend to give her medical aid until it was too late for the medical practitioner ultimately called in to save her life. Herring was convicted of manslaughter, coming before a judge, Mr. Justice Bigham, who took care that the jury should fully appreciate the case for the prosecution. Had Herring escaped conviction for manslaughter he could have been tried for perjury, having sworn at the inquest that he was a registered medical practitioner. His case was a heinous one and he had no doubt added to the certainty of conviction by the aliases he had assumed and the false pretences of which he had been guilty and if he had been detected sooner he could no doubt have been dealt with for illegal practice. It must be remembered, however, that if Herring had contented himself with practice without pretending to medical qualifications he would still have found patients and the law would have permitted him to go on until one of his victims died, while even then it would have been quite possible for him to have escaped the conviction which in the circumstances has fallen to his lot.

Herring's case is an apt illustration of the difficulties which are imposed upon coroners to which attention was called in an annotation in THE LANCET of Nov. 1st, p. 1209. He might have been acting without any false pretence of qualification as what the Home Secretary in the letter which we quoted called an "unregistered medical practitioner." Had his patient died in such circumstances without the intervention of any qualified practitioner the coroner would have had either to permit the burial of the deceased without an inquest or to have formed an opinion chiefly upon such materials as the person most interested might afford him as to whether the cause of death was one which should be inquired into. Had the coroner on such an occasion ordered a post-mortem examination and held an inquest avowedly because he could not trust to information supplied by a person without qualification to give it he would have been liable to have his conduct laid before the Home Secretary and would have received no support from that official. Coroners will, however, no doubt take note of the case of Herring and regard cases of death in which quacks have been in attendance with careful scrutiny.

Boric Acid as a Preservative.

In two cases heard in London police-courts recently the use of boric acid as a preservative was called in question. In the one a firm of provision dealers were summoned under the Sale of Food and Drugs Act for selling cream which, according to the *Daily Telegraph* report of the case, contained boric acid in a proportion equal to 51·2 grains to the pound. They had, however, given notice to purchasers that the cream was not in its natural state by affixing to the outside of the small jugs in which it was sold labels with the inscription, "This cream contains a small quantity of boracic acid preservative to retard sourness in accordance with the practice of the last ten years," and the summons against them was dismissed, Mr. Denman holding that the label protected them and pointing out that there was nothing definitely laid down as to what constituted a proportion of boric acid dangerous to health.

In the other case, heard at the South-Western Police-court, the boric acid had been added to a churn of milk in the proportion of 38 grains per gallon and a warranty had been given as to the purity of the milk, the precise terms of which do not appear in the *Times* report of the case. The defendant, a farmer who had consigned the milk to dealers in London, gave evidence in his own behalf that he had bought the preservative used under the name of "Jack Frost," recommended by an advertisement as "tasteless, odourless, harmless," and that he had no idea that "Jack Frost" was composed of boric acid. Mr. Garrett, the magistrate who heard the case, fined the defendant £10 with 12*s.* 6*d.* costs.

In THE LANCET of Dec. 14th, 1901, p. 1682, the report of the Departmental Committee which inquired into the use of preservatives in foods was commented upon. This report, it will be remembered, recommended the prohibition of all chemical preservatives in milk, but proposed in the case of cream to make the addition of boric acid or mixtures of boric acid and borax lawful, subject to the amount not exceeding 0·25 per cent. expressed as boric acid. As far as we are aware no regulation has hitherto been made as a result of this report, so that it is still necessary to call scientific evidence in each case as to the nature and properties of the preservative made use of, while each magistrate has to draw his own conclusions afresh from the evidence before him.

Infringement of Trade-marks.

Messrs. Burroughs, Wellcome and Co. have forwarded to us copies of judgments obtained by them in the Civil and Penal Tribunal of Milan and in the Appeal Court of Milan restraining certain Italian traders from infringing their trade-mark and selling imitations of their well-known goods. The conduct of the defendants appears to have been extremely barefaced and audacious, as we gather from the judgments, which discuss the legal aspects of the case with great elaboration, that they made use of the name of the plaintiffs, imitated their "tabloid" trade-mark, imitated their products, and imitated their bottles. Moreover, we fail to gather from the judgments that the infringers were able to set up anything worthy of the name of defence or that they had any ground for their appeal. We note, however, that those who complain, often without reason, of the law's delays in England would hardly find themselves better off in Italy, for Messrs. Burroughs, Wellcome and Co. appear to have begun their action in or before September, 1900, to have obtained judgment for an injunction and damages in the court of first instance in June, 1901, and to have won their appeal quite recently—that is to say, in the latter part of 1902. We congratulate the plaintiffs upon their success which, besides being satisfactory in every way to themselves, will encourage English firms in the protection of their trade-marks and goods in the Italian courts.

THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.

AT a meeting of the local Society for the Prevention of Consumption held at Newcastle it was decided to build a sanatorium for consumptive patients in Northumberland and Newcastle. The proposed building is to accommodate 50 patients and will cost £50,000. Subscriptions amounting to £8000 were announced, of which Mr. Watson Armstrong gave £4000, and Sir Andrew Noble, Mr. W. D. Cruddas, and Mr. Mitchell £1000 each.

Dr. J. Cunningham Bowie of Cardiff, writing recently in the *Cardiff News*, argues that the money which would be necessary for one year's maintenance of the contemplated sanatoriums in the two counties of Glamorgan and Monmouth if capitalised would approximately amount to £10,000,000 sterling, and it might be safely contended that if this sum was expended in acquiring suitable land at its agricultural value for the purpose of rehousing the people in the towns upon the principle of "garden cities," and in providing healthy cottages in the rural districts, it would go a long way towards solving, not only the problem of consumption, but the other zymotic diseases as well. He believed that no effective way of dealing with this subject would ever be found inside cities and large towns as at present constituted. The people must be spread over the land upon

the principle of "garden cities," as had been carried out at Port Sunlight, Bournville, and other places, where the houses were mostly detached and had at least a quarter of an acre of land to each cottage. The present impossibility of acquiring suitable land for building purposes at its agricultural value in the proximity of large towns and the present leasehold system were the causes of the difficulty in moving in this direction, because owing to the price which must be paid for the land and to conditions attached to it when acquired it was impossible for the people to have the necessary land attached to their cottages to maintain them in health. A fair price for agricultural land was £20 per acre, but in the proximity of large towns it might be from £75 to £100 per acre. It was contended by the executive of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis that not less than half an acre of land was necessary to be around a sanatorium for each consumptive person in it. If this amount be necessary for a sanatorium, why not give the same quantity to the workman's cottage and prevent the disease that they were endeavouring to cure?

The foundation-stones of the new sanatorium which is being erected at Delamere by Mr. W. J. Crossley were laid on Oct. 14th. The sanatorium will cost over £70,000 and it is being provided by Mr. Crossley on the condition that the institution is endowed by the public. Stones were laid by the Bishop of Manchester, the Lord Mayor of Manchester, Mrs. Crossley, Dr. Arthur Ransome, and Dr. James Niven, the medical officer of Manchester.

A deputation from the National Association for the Prevention of Consumption and other Forms of Tuberculosis waited on the Taunton town council on Oct. 14th to solicit financial aid towards the establishment of a sanatorium for consumption at Winsley, on the Wiltshire Downs, for Bristol, Gloucestershire, Somerset, and Wiltshire. Dr. Lionel Weatherly, of Bath, explained the scheme and after some discussion the matter was referred to the sanitary committee. The cost of the proposed building is estimated at £20,000.

Looking Back.

FROM

THE LANCET, *SATURDAY, NOV. 6*, 1824.

FOREIGN DEPARTMENT.

ANALYSIS OF FOREIGN MEDICAL JOURNALS.

Extirpation of half of the Lower Jaw, by Professor Gräfe, of Berlin (Gräfe and Walther's Journal.)—The patient was a woman, aged 34, who had for some time had a very painful osteo-sarcoma of the left half of the lower jaw, as large as two fists, bleeding at every touch, impeding speech, breathing and mastication, discharging offensive matter, and producing hectic fever. Professor Gräfe began by making a perpendicular incision, through the middle of the lower lip, which he continued along the base of the left half of the jaw, as far as the ascending branch, and in that way exposed the outer and under surface of the diseased mass. The soft parts being held aside, he introduced a curved knife into the mouth, and separated the left half of the jaw from all its connexions. In order to defend the neighbouring soft parts, he passed two straps behind the bone—one, an inch wide, at the chin; another, two inches wide, at the situation of the last molar tooth. Upon these he divided the bone with a small saw, first in front, and then close behind the last grinding tooth. The detached piece of bone was then taken away, and the sawed ends of the remaining portions rounded off. All the vessels which had been divided before the sawing of the bone, had been secured at the time, so that the only remaining one was the artery running in the canal in the bone: the bleeding from this was stopped by introducing a little bit of sponge. The lip was brought together by the twisted, the wound in the cheek by the common, suture. Eighteen days after the operation, the patient could speak plainly, and chew solid food with the right half of the jaw. In three weeks the whole was healed. The deformity was very slight, as the incision formed a mere line, and as the cheek had acquired a degree of firmness sufficient to preserve the form of the face.

It seems rather strange that this operation should not have been performed in Britain until very recently, though it has proved so useful in the hands of Gräfe, Dupuytren, Mott, and others. That the cases in which it may be performed are not rare, may be well conceived from Gräfe's statement, that in 1823, he practised it, to a greater or less extent, in no less than five cases.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9002 births and 4734 deaths were registered during the week ending Nov. 1st. The annual rate of mortality in these towns, which had been 18·1, 17·4, and 16·9 per 1000 in the three preceding weeks, further declined last week to 16·6 per 1000. In London the death-rate was 16·3 per 1000, while it averaged 16·7 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 4·1 in Hornsey, 7·5 in Handsworth, 7·6 in Bournemouth, 8·1 in Leyton, 8·6 in Kings Norton, 8·7 in Croydon, 9·5 in Hastings, and 9·8 in Walthamstow and in Barrow-in-Furness; the highest rates were 21·1 in Preston, 22·0 in Blackburn and in Tynemouth, 22·3 in Warrington, 22·7 in South Shields, 22·8 in Liverpool, 23·6 in Merthyr Tydfil, and 25·6 in West Hartlepool. The 4734 deaths in these towns included 576 which were referred to the principal infectious diseases, against 806, 682, and 602, in the three preceding weeks; of these 576 deaths, 163 resulted from measles, 162 from diarrhœa, 76 from diphtheria, 59 from "fever" (principally enteric), 58 from scarlet fever, 51 from whooping-cough, and seven from small-pox. No death from any of these diseases was registered last week in Hornsey, Leyton, Hastings, Burton-on-Trent, Handsworth, Birkenhead, Halifax, Rotherham, or York; while they caused the highest death-rates in Bristol, Hanley, West Bromwich, Grimsby, Bootle, Stockton-on-Tees, Cardiff, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Bristol, Hanley, Bootle, Salford, Hull, Stockton-on-Tees, South Shields, and Cardiff; from scarlet fever in West Bromwich; from diphtheria in Great Yarmouth, Wigan, Bury, and Merthyr Tydfil; from whooping-cough in Stockport; from "fever" in Southampton, Grimsby, and Stockport; and from diarrhœa in Wolverhampton, Aston Manor, and Preston. Two fatal cases of small-pox were registered in Bolton, two in Newport (Mon.), and one each in Bootle, Gateshead, and Merthyr Tydfil, but not one in any other of the 76 large towns. There were 19 small-pox cases under treatment in the Metropolitan Asylums hospitals on Saturday, Nov. 1st, against 31, 28, and 23, in the three preceding Saturdays; six new cases were admitted during the week, against two, four, and one in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2811, 2871, and 2904 at the end of the three preceding weeks, had declined again to 2869 at the end of last week; 349 new cases were admitted during the week, against 389, 362, and 362 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 272, 251, and 291 in the three preceding weeks, further rose last week to 298, but were 52 below the corrected average weekly number. The causes of 46, or 1·0 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Manchester, Bradford, Hull, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Handsworth, Liverpool, Warrington, Rochdale, and Burnley.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0 and 16·8 per 1000 in the two preceding weeks, rose again to 18·9 per 1000 during the week ending Nov. 1st, and exceeded by 2·3 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 14·1 in Perth and 15·9 in Greenock to 19·8 in Glasgow and 19·9 in Dundee and in Paisley. The 612 deaths in these towns included 18 which resulted from

diarrhœa, 16 from whooping-cough, seven from scarlet fever, six from diphtheria, five from measles, and three from "fever." In all, 55 deaths were referred to these principal infectious diseases last week, against 56 and 46 in the two preceding weeks. These 55 deaths were equal to an annual rate of 1·7 per 1000, which was 0·3 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 19, 24, and 21 in the three preceding weeks, further declined last week to 18, of which seven occurred in Dundee, four in Glasgow, two in Edinburgh, and two in Leith. The deaths from whooping-cough, which had been 12, 11, and seven in the three preceding weeks, rose again to 16 last week and included eight in Glasgow, three in Dundee, two in Edinburgh, and two in Aberdeen. The fatal cases of scarlet fever, which had been five, eight, and 10 in the three preceding weeks, declined again last week to seven, of which four were registered in Edinburgh and two in Glasgow. The deaths from diphtheria, which had been eight and five in the two preceding weeks, rose again to six last week, and included four in Glasgow. The fatal cases of measles, which had been two in each of the two preceding weeks, increased last week to five, of which four were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 129 and 116 in the two preceding weeks, rose again last week to 146, and were 13 in excess of the number in the corresponding period of last year. The causes of 23, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·8, 26·8, and 30·0 per 1000 in the three preceding weeks, declined again to 23·9 per 1000 during the week ending Nov. 1st. During the past four weeks the death-rate has averaged 26·4 per 1000, the rates during the same period being 16·8 in London and 15·4 in Edinburgh. The 174 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 44 from the number in the preceding week, and included 27 which were referred to the principal infectious diseases, against 34, 35, and 40 in the three preceding weeks; of these, 16 resulted from measles, three from scarlet fever, three from "fever," three from diarrhœa, one from diphtheria, and one from whooping-cough. These 27 deaths were equal to an annual rate of 3·7 per 1000, the mean death-rate last week from the same diseases being 1·7 in London and 1·5 in Edinburgh. The fatal cases of measles, which had been 11, 19, and 20 in the three preceding weeks, declined again last week to 16. The deaths from scarlet fever, which had been two in each of the three preceding weeks, increased to three last week. The fatal cases of diarrhœa, which had been 17, 11, and 14 in the three preceding weeks, decreased again last week to three. The mortality from "fever" exceeded that recorded in each of the two preceding weeks. The 174 deaths in Dublin last week included 45 of children under one year of age and 29 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a considerable decline from the respective numbers in the preceding week. One death from violence and two inquest cases were registered; and 56, or nearly a third, of the deaths occurred in public institutions. The causes of 10, or nearly 6 per cent., of the deaths in Dublin last week were not certified.

PUBLIC HEALTH OF CALCUTTA.

In the opening paragraphs of his report for the year 1901 Mr. J. Nield Cook, health officer of Calcutta, indicates some of the difficulties connected with the compilation of vital statistics in an Eastern city. He says that the birth-rate of the town calculated on the registered births was 10·7 per 1000 of the population, but judging from towns where the births are better registered than they are in Calcutta he considers that a normal Indian birth-rate should not be less than 40, and making allowance for the fact that in Calcutta the female population is only half of the male he estimates the normal birth-rate at 20 per 1000. If this is anywhere near the correct figure it would therefore appear that nearly half the births escape registration—a result due to the apathy of the people and the absence of any efficient system of collecting information. According to the census returns of 1891 the total population of Calcutta, including the 25 wards of the town, Fort William, the port, and the canals, was 681,560 (446,746 males and 234,814 females). The provisional totals of the census of 1901 show that the corresponding total population is now 847,896 (562,596 males and 285,200 females). The total deaths from all causes were 32,456 in number, including 1720 from cholera, 2097 from small-pox, 6311 from "fever," 3211 from dysentery and diarrhœa, 7883 from plague, 1064 from phthisis, 1375 from asthma, 839 from pneumonia and bronchitis, 1225 from liver disease, 287 from tetanus, 84 from leprosy, 23 from enteric fever, 104 from suicide, and two from snake-bite. The general death-rate was therefore 38·2 per 1000, this abnormally high mortality being due to plague. The infant mortality under one year of age per 1000 births, classified according to "nationality," was as follows: Hindus, 363·7; Mahomedans, 575·6; Christians, 264·5; other classes, 290·1. The aggregate mean of these figures gives a mortality of 408·5 per 1000. A number of cases of cerebro-spinal fever were reported in jails and emigration depôts. In June about 30 cases of epidemic dropsy, similar in all respects to those formerly described by Colonel Kenneth McLeod, I.M.S., occurred in the town; its origin or mode of introduction could not be accounted for and there were no fatal results. The total number of vaccinations, primary and secondary, during the year was 35,630, the largest annual number that has ever been performed in Calcutta except in the year 1895. Humanised lymph was not used; 13,747 vaccinations were performed with calf vaccine, 383 with glycerised vaccine, and 21,500 with lanoline paste. The highest reading of the thermometer in the shade was 108·4° F. in June, and the lowest was 50·1° in January. The total rainfall was 70 inches, of which 54 inches were recorded in July, August, and September.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

SURGEON A. GASKELL has been specially promoted to the rank of Staff-Surgeon for conspicuous and professional merit at Wei-hai-wei.

The following appointments are notified:—Surgeons: W. Bastian to the *Woodcock*; J. Thornhill to the *Ainsha*; and N. L. Richards to the *President*, for three months' course of hospital study. Civil Practitioner: J. G. Murray to be Surgeon and Agent at Scarborough.

ROYAL ARMY MEDICAL CORPS.

Colonel N. B. Major retires on retired pay. Dated Nov. 5th, 1902. Captain G. C. Phipps, from temporary half-pay, retires on retired pay. Dated Nov. 5th, 1902. Lieutenant Hugh Richardson resigns his commission. Dated Nov. 5th, 1902.

Major G. Cree assumes medical charge of the hospital for soldiers' wives and children, officers and their families, and Gunwharf subordinates at Devonport. Major P. H. Whiston is posted to the Irish Guards. Major B. L. Mills has embarked for India. Major C. S. Sparkes assumes medical charge at Weedon and Major D. Stiell medical charge of troops and the Station Hospital at Fort George.

The office of Principal Medical Officer of the Woolwich Military District is to be abolished consequent on the incorporation of the Woolwich and the Thames Districts in the new Army Corps.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st East Riding of Yorkshire: Surgeon-Captain T. McC. Foley to be Surgeon-Major. Dated Nov. 5th, 1902. *Rifle:* 21st Middlesex (the Finsbury): William Aberdein Malcolm to be Surgeon-Lieutenant. Dated Oct. 21st, 1902.

VOLUNTEER INFANTRY BRIGADE.

North-East Lancashire: Surgeon-Major A. A. Watson, 2nd Volunteer Battalion the East Lancashire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade. Dated Nov. 5th, 1902.

SOUTH AFRICAN WAR HONOURS.

The King has been graciously pleased to give orders for the following appointments for promotions in the army, and for the grant of the medal for distinguished conduct in the

field to the undermentioned officers and soldiers in recognition of their services during the operations in South Africa:—

To be a Companion of the Order of the Bath.

Lieutenant-Colonel Henry Halcro Johnston, R.A.M.C.

To be Companions of St. Michael and St. George.

Civil Surgeon W. F. Tyndale and Civil Surgeon E. Langley-Hunt.

To be Companions of the Distinguished Service Order.

Major Maurice Percy Cue Holt, R.A.M.C.; Major Wilfred William Ogilvy Beveridge, R.A.M.C.; and Captain Thomas Campbell MacKenzie, R.A.M.C.

To be Surgeon-Lieutenant-Colonel.

Surgeon-Major W. R. Crooke-Lawless, Coldstream Guards.

To be Brevet Lieutenant-Colonels.

Major C. Birt, R.A.M.C.; Major M. W. Russell, R.A.M.C.; and Major S. Hickson, R.A.M.C.

To be Brevet Majors.

Captain D. D. Shanahan, R.A.M.C., and Captain A. F. Tyrrell, R.A.M.C.

To have the honorary rank of Captain.

Quartermaster and Honorary Lieutenant A. Bruce, R.A.M.C.

To have the Distinguished Conduct Medal.

Sergeant-Major J. J. Saunders, R.A.M.C., Sergeant-Major E. W. Newland, R.A.M.C., Second Class Staff-Sergeant G. Fells, R.A.M.C., Sergeant E. Haynes, R.A.M.C., Corporal S. Cowan, R.A.M.C., and Private H. Ebbs, R.A.M.C.

First Class Superintendent Officer C. W. Baker, St. John's Ambulance Association.

To have the Royal Red Cross.

Superintendent Sister Miss M. Russell, A.N.S.; Nursing Sister Miss C. H. Keer, A.N.S.; Nursing Sister Miss H. O. Luckie, A.N.S.R.; Nursing Sister Miss Margaret Whiteman, A.N.S.R.; Miss Katherine Blanche Brereton (I. Y. Hospital), and Mrs. Margaret Scott Fripp (I. Y. Hospital); Superintendent Sister Miss M. Rawson, Colonial Nursing Sister (Victoria); Nursing Sister Miss Georgina Pope (Canada); and Miss Joan Charleson, Mrs. Harriet Maud Campbell-Ross, Miss Ellena Philipson Stow, Miss Isabella Jessie Philipson Stow, Miss Amy Blake Knightley, Miss Sophia Margaret Patterson, Miss Katharine Louisa Hill, and Miss Sophie Lees (Nursing Sisters of the Intombi Hospital Camp).

For services during the operations in South Africa elsewhere than in that country:—

To be Companions of the Order of the Bath.

Lieutenant-Colonel Edmond Monkhouse Wilson, C.M.G., D.S.O., R.A.M.C.

Lieutenant-Colonel William Johnston, R.A.M.C. (r.p.).

Brigade-Surgeon-Lieutenant-Colonel Alexander Crombie, retired (I.M.S.).

Sir John Furley, Kt.

CIVIL SURGEON JOHN LUNN.

An erratum in the *London Gazette* of Oct. 30th states that "Civil Surgeon Munn," mentioned in Lord Kitchener's despatch of March 8th, *London Gazette*, April 25th, should have been "Civil Surgeon John Lunn."

Civil Surgeon Lunn was mentioned for devotion to duty under heavy fire at Kaffir Spruit on Dec. 19th, 1901.

ROYAL NAVAL HOSPITAL, HASLAR.

The session of special instruction at the Royal Naval Hospital, Haslar, terminated on Oct. 24th. The prizes were awarded as follows: the Gold Medal and Microscope to Surgeon Charles A. G. Phipps, late of the London Hospital; the Silver Medal and ten pounds' worth of books to Surgeon Stanley S. H. Shannon, late of Guy's Hospital.

Surgeons in order of Seniority.

Name.	Marks.	Name.	Marks.
Charles A. G. Phipps	4230	Frank E. Bolton	3005
Stanley S. H. Shannon ...	3537	Reginald L. Jones	2889
Charles K. Bushe...	3202	Robert H. Atkins	2837
William R. Harrison	3141	Charles J. O'Connell	2789
Walter G. Edwards	3106	James A. Thompson	2756

Correspondence.

"Audi alteram partem."

THE BEHAVIOUR OF SMALL-POX IN BERMONDSEY.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 11th, p. 1001, you refer to a report by Mr. R. K. Brown, the medical officer of health of the borough of Bermondsey, upon the recent outbreak of small-pox in that district and to his allegation that the disease was spread to some extent owing to defective control over the staff employed at the Metropolitan Asylums Board's South Wharf in his district, at which wharf small-pox cases are embarked for conveyance to the hospital ships.

As you observe, he makes a serious allegation against this board when "he suggests that the men from the ambulance steamers should not be allowed to land when and where they please." The superintendent of the wharf, in reporting on this allegation, states that on his appointment in 1885 he—

> Issued an order forbidding any of the staff to land anywhere except at South Wharf, and this I feel certain has been strictly carried out. The captains of the steamers from whom I have made inquiries aver that no member of the staff has since then ever landed anywhere but at South Wharf. As a rule, except when the small boats are in use for cleaning or painting the outside of the steamers, they are in winter kept at the davits and in summer are nearly filled with water in order to keep them tight. From the constant supervision it would be next to impossible for a boat to leave South Wharf without being seen.

In January last, upon the arrival in London of a new steamer from Southampton, it was necessary to keep two of the builder's men, who had assisted in the navigation of the vessel to London to complete certain work. In order to prevent the possibility of infection none of the staff of the wharf was allowed on the vessel during the time these men were there, and the Southampton men landed at, and were taken off from, the Commercial Dock Pier in the small boat which came round with the steamer from Southampton. The same course was pursued when a second steamer was purchased and two boiler-makers were employed on her for a few days. It is possible that these instances may have misled Mr. Brown or his informants. I am glad to be able to add that no case of small-pox has ever occurred among the families of the men employed in the river ambulance service, most of whom are married.

I am, Sirs, your obedient servant,

T. DUNCOMBE MANN,
Clerk to the Metropolitan Asylums Board.

London, Oct. 29th, 1902.

DRINK AND INSANITY.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the paper by Dr. Robert Jones of Claybury Asylum on Mental Dissolution the Result of Alcohol as published in THE LANCET of Oct. 25th (p. 1118). May I beg of your favour opportunity to say a word and to ask a question or two upon it? Am I to infer from the opening sentences of the paragraph on the distribution of alcohol that the writer of the paper regards the wide diffusion of that drug which he mentions as entitling it, when used as an ingredient of common dietetic beverages, to be regarded as a good creature of God? Will he indicate a bubbling spring on the face of God's earth from whose stream an ounce of it can be distilled or extracted by any process, chemical or mechanical, for each barrel (36 gallons)? I observe with much satisfaction his very guarded assertion that the consensus of medical opinion is that "in many instances, under the control of the reasoning and moral faculties, its use [query] as a drug or as a daily beverage is to some extent beneficial." Does Dr. Jones really mean to assert that a drug which, to use his own words, "affects the weakly by reducing their energy, their vigour, their initiative, and their enterprise" can have a totally different kind of effect upon the stronger? If so, can he oblige us with a definition or description by which a weakling can be distinguished from a strong person? Surely, it seems to me that a person of strong constitution can more readily recuperate from "the fell effect" of this "lethal

weapon," but he has to pay the price for his indulgence, as has been well and forcibly indicated by Sir Henry Thompson. I presume that Dr. Jones will not argue that because a man by chronic excessive indulgence kills himself by some one or more of the many forms of alcoholic disease by the time he reaches the age of 40 or 45 years, that therefore he was a weakling when he began his fatal career. If so, he must assert that the large army of persons who are engaged in the retail liquor traffic, and who as a class notoriously die young, are for the most part weaklings when they enter into the business. He speaks of the many wise and tolerant men who have found benefit from it in moderation and who have abstained from its use because they have recognised its evil consequences on the community. He omits to characterise such action here but indirectly does so before he concludes, as I will indicate hereafter. What I want to ask at this point is, does Dr. Jones recognise any difference between real physiological effect and apparent sensation? He says that wise men have found benefit from it and yet have totally abstained from its use. If that were so, could they be legitimately called wise? Rather, I take it, they displayed their wisdom by recognising, as did the prophet of old, that "wine is a mocker and whosoever is deceived thereby is not wise." The temporary sensation of well-being is a very different thing physiologically from actual well-being and sensations are often base deceivers.

If I were to go on with my criticism in detail—and there is much more I should like to refer to—I should have to ask you for as much space as Dr. Jones's paper has occupied and this I dare not do. I want to say that I sympathise with his view that much evil at present connected with the liquor habit might be prevented by careful administration of restrictive legislation and that people can be made sober and kept sober by Act of Parliament. But I venture to think that many more people could be usefully influenced if the medical profession, with its mighty power for good, would more fully regard this subject from the standpoint of the wise and tolerant total abstainers. I entirely fail to appreciate the consistency of a man of unsurpassed experience who expresses the opinion "that the best working hypothesis for the prevention and cure of all forms of alcoholic disorders, whether mental or physical, must be based on the practice of total abstinence" and who yet prides himself on avoiding the "fallacy of extremes" in his own person. Alas for logic, well-a-day for consistency. The earnest hope of all who take an interest in the diminution of the "national degradation" arising from the alcoholic habit must be that Dr. Jones, and with him many of his professional brethren, will throw their weight into the scale with the wise and tolerant total abstainers.

I am, Sirs, yours faithfully,

CHARLES L. ROTHERA,
Coroner for Nottingham.

Oct. 26th, 1902.

"SORE-THROAT ILLNESS AT DITCHAM" AND ISOLATION HOSPITALS.

To the Editors of THE LANCET.

SIRS,—In the annotation under the above heading in THE LANCET of Oct. 11th, p. 1004, in justifying the practice of hospital isolation in scarlet fever you say: "'You cannot fool all the people all the time.' Isolation hospitals by the score have been established and in full work for many years in this country. We have never heard of an instance where a local authority, responsible for the prevention of infectious disease, has attempted to abandon its isolation hospital."

Surely, this is rather an unscientific argument to use, begging as it does the whole question. A similar argument could at one time have been equally applied in support of blood-letting or any other once universally accepted but now exploded doctrine. The answer to it, of course, is that you can, without any difficulty, "fool all the people" for a very long time, especially if the doctrine has been officially accepted and expressed in bricks and mortar. Now, as a matter of fact, the utility of hospital isolation has already been seriously questioned, and although it is only three years since Mr. E. D. Marriott first called attention to the unsatisfactory results which were being obtained a very perceptible change in expert opinion is taking place. It is coming to be tacitly admitted that it is impossible to demonstrate any very material advantage in the way of a reduced prevalence of the disease; also, that the reduced mortality of scarlet fever (which has so often done duty as evidence of the supposed value of hospital isolation) is really due to a change in the *type* of the disease and has been at least equally marked in localities where hospital isolation has never been practised. The open advocates of hospital isolation for scarlet fever are becoming less in number, less enthusiastic, and less dogmatic. Indeed, the attitude now adopted is usually one of apology. Some towns which formerly made great efforts to remove to hospital as large a proportion of their cases of scarlet fever as possible have now relinquished the attempt as futile and content themselves with isolating the more urgent cases only, preferring to utilise their hospital accommodation for other diseases, such as diphtheria and typhoid fever. The doctrine that the success of hospital isolation in stamping out scarlet fever depends upon the proportion of cases removed to hospital is apparently falling into disrepute. The limitations of hospital isolation are being emphasised and the importance of other factors than personal infection is being suggested. In some quarters hospital isolation is coming to be looked upon as a philanthropic rather than as a preventive measure. Lastly, much more importance is being attached to "return" cases as constituting a real drawback to hospital isolation. The Ditcham outbreak has proved (if proof were needed) that the real extent of the evil is not indicated by the number of recorded "return" cases, and there is a growing belief that these "return" cases are, to some extent at least, the direct outcome of the "aggregation" which hospital "isolation" in practice entails. In view of the uncertainty which now exists several local authorities which contemplated building hospitals have, I believe, begun to doubt the wisdom of proceeding further until some of this uncertainty has been cleared away. Nor can they be greatly blamed. The obvious remedy surely is that the whole question of hospital isolation should be made the subject of an exhaustive and authoritative investigation and the various issues as far as possible thoroughly threshed out. That there are not a few persons interested in sanitation who at present feel in doubt, and who would welcome such an investigation, is shown by the fact that at the Eastbourne Health Congress last year 42 members voted in favour of and 73 against it. In the face of this it would seem inevitable that sooner or later an inquiry must be made, nor do I anticipate that anything but good would result to the cause of true sanitary progress.

The whole of the charge brought by Mr. Marriott against hospital isolation in connexion with scarlet fever may or may not prove to be well founded, but that the startling and disquieting facts which he has adduced are substantially correct cannot now be denied.

I am, Sirs, yours faithfully,

C. KILLICK MILLARD.

Leicester, Oct. 20th, 1902.

THE TREATMENT OF THE SUMMER DIARRHŒA OF INFANTS.

To the Editors of THE LANCET.

SIRS,—The etiology and pathology of this affection I pass over with one or two general observations. In hot, dry seasons diarrhœa is more prevalent than in wet summers and in warm but moderately wet years it is not nearly so common as in dry, moderately warm weather. From this we may reasonably deduce that dust has something to do with the spread of the disease. It is more commonly met with among the infants of the poor than among the well-to-do and, of course, it is more often met with in bottle-fed children than among breast-fed infants. I believe that the disease is commoner in closes and courts than in the open street houses, and I have observed that the child living next a dry midden is more likely to suffer than the infant situated in a house at some distance from the general midden which serves as a repository of offal for a street or part of a street. The infant of the lazy young mother who is careless about the cleanliness of the bottles and who to save her bones employs a long-tube bottle is nearly always a sufferer from epidemic diarrhœa. In houses where remnants of food are allowed to lie about and where there is a lack of tidiness the affection is often met with. Between thrush and summer diarrhœa there is a close connexion and I have often debated in my own mind whether the two are really not one and the same. Whatever be the remote cause of epidemic diarrhœa—and I am certain *the* most

important occasion of it is to be found in filth and where the immediate surroundings are not wholesome—it is often fatal. Conversely, where the home is cleanly and where the mother or nurse is willing to keep everything sweet, the chances of success are much greater.

Treatment of the mouth.—A vigorous cleansing of the mouth should be carried out every day and if the medical man himself can do it once a day so much greater are the chances of recovery. My plan is to wrap a piece of soft rag round the end of a teaspoon and then round the handle as far as the bowl of the spoon. I next moisten the rag in tepid water and scrub off all the pieces of food from the gums, tongue, palate, tonsils, and pharynx, using two or, if necessary, three fresh pieces of rag. After having well cleansed the parts I place about five grains of powdered boric acid on the tongue, which the infant soon moves about so that it gets applied to the affected parts. Twice again during the 24 hours the mother is instructed to do the same, the boric acid being used or not according to the severity or otherwise of the case. I consider this cleansing one of the most important items in the treatment, because not only is there absorption of poisonous matters from the mouth itself but particles pass into the alimentary tract and keep up the affection; hence my first efforts in a case of moderate degree of severity are directed towards getting the tissues of the mouth into a healthy state. I always direct the attendant to give the child a teaspoonful of cold water five or six times in the 24 hours. We forget that an infant cannot make his wants exactly known, but if he could we may be sure he would ask for cold water when he has diarrhœa, just as older people do.

Treatment by dieting.—Before we have been called in the infant, as a rule, has been too liberally fed with milk, arrowroot, and so on. I begin my treatment in this direction by ordering the child to be fed with freshly made beef-tea from which all fat has been removed, the quantity being carefully prescribed. Beef-tea fulfils two purposes. First, it gives rest to the alimentary tract, and secondly it supplies the salines of which the tissues stand in need. After 24 or 48 hours if there is a sign of improvement the dietary may be changed to a well-diluted milk, as, for example, one fluid part of milk to three fluid parts of sweetened warm water, the proportion of milk being increased as the infant progresses towards recovery. Instead of beef-tea I sometimes order freshly prepared whey. This has to be made twice a day. Essence of rennet can be obtained from all druggists and any intelligent woman can make whey. The only difficulty is that often in warm water the milk "breaks" and whey cannot be got. Whey acts much in the same manner as beef-tea by resting the alimentary tract and by supplying salines. In milder cases it is often sufficient simply to reduce the quantity of the food. An infant on half-and-half milk and water may be put on one part milk and three or four parts water till signs of improvement appear. Where a child has been systematically fed on unboiled milk a good plan is to have the milk boiled as soon as it comes from the dairy when diarrhœa is prevalent. I am not an advocate of the continuous use of boiled milk in the feeding of infants and I am certain unboiled milk of itself is not a prolific source of either diarrhœa or tuberculosis. Formerly I prescribed pancreatised milk or a combined milk and food, but I am fully convinced they do more harm than good in the early stages of infantile diarrhœa and I now never order them. I have seen them again and again pass through the tract in the shape of curd, just as one sees milk in similar circumstances. In the convalescent stage they are often useful, but that is another matter. The chief thing one has to bear in mind in the treatment of all disease is rest, but especially is it important in treating the diarrhœa of infants.

Treatment by drugs.—The first thing to be done when called to a case of diarrhœa is to place the tract under the most advantageous conditions for its return to a normal state by removing all offending bodies, and this is best accomplished by the good old-fashioned plan of a teaspoonful of castor oil. If the oil does not operate or has failed to produce a sufficient purge one may resort to another old-fashioned drug—grey powder. After the oil or grey powder other medicinal agents may be necessary. If there is pain or much discomfort or restlessness from half to one minim each of tincture of opium and diluted sulphuric acid with five minims of glycerine in one drachm of water may be given every two hours for 24 hours. At the end of this time the pain or discomfort has generally abated, when the opium may be left out of the prescription, but the other ingredients left in and continued till the motions are reduced in number. Often the better line of treatment is to give one single dose of an opiate in the shape of one grain of Dover's powder, and instead of the sulphuric acid mixture one may often with advantage prescribe one or two grains of sodium salicylate in a teaspoonful of water every two or three hours. I cannot say I have found the kino and catechu mixtures of much service in the diarrhœa of young children and I may say the same of the bismuth preparations. They answer better in older patients. Kino and catechu act not at all or too low down in the tract to be of any service and bismuth spends too much of its force in the stomach. The advertised ferment conglomerations which are said to incorporate all the digestive ferments from the mouth to the anus I have tried but have left alone for some time. When the diarrhœa has disappeared all the tissues are naturally left flabby but soon recover and "tonics" are hardly ever necessary, but when I have to give anything in this way I prescribe five minims of infusion of quassia and the same of glycerine diluted to one teaspoonful with water three times a day. I have tried half-minim doses of tincture of nux vomica as a tonic in infants but the mothers or nurses often complained that the medicine made the child "funny" and I have recently left it off. I wonder if other men have had a like experience with this drug in the treatment of infants.

Hygienic treatment.—If I could have many of my bad cases removed to healthier surroundings I feel sure they would get rapidly well. This cannot often be accomplished and one must do the next best thing by seeing that the child has as much fresh air as possible. The mother should take him out of doors as much as is consistent with the strength of the infant. The bath should not be forgotten. One of the first things a woman does when the baby is ill is to leave off the daily bath unless she is told of the necessity of continuing it. Twice a day at least the child should be bathed or if the strength is not equal to this, then sponging should be resorted to.

Lastly, it has to be remembered that although drugs are necessary in the treatment of infantile diarrhœa, we should rely most upon dieting and cleanliness, with especial attention to little things. As healers we should be able to excel in science and wisdom without neglecting little things.

I am, Sirs, yours faithfully,

Leeds, Oct. 11th, 1902. J. GORDON SHARP, M.D. Edin.

UNDESIRABLE PUBLICITY.

To the Editors of THE LANCET.

SIRS,—I understand that a caricature or cartoon of me has appeared in *Vanity Fair*. I am told this is a distinction; if so, it is one which I do not appreciate or covet and I should like the profession to know that it is entirely unauthorised and against my express wish. I remember that Sir James Paget was subjected to a similar indignity.

I beg to remain, Sirs, your obedient servant,

W. H. BROADBENT.

Brook-street, Grosvenor-square, W., Nov. 4th, 1902.

TUBERCULOSIS OF THE PERITONEUM.

To the Editors of THE LANCET.

SIRS,—In his interesting address on Tuberculosis of the Peritoneum from a Clinical Point of View, published in THE LANCET of Oct. 25th, p. 1105, Mr. Edmund Owen raises some interesting questions touching the nature and treatment of the condition. His objection to the term peritonitis and his suggested substitute for it, are clinically convenient if not altogether defensible. A modification of his suggested nomenclature, to denote not only the tuberculous state of the peritoneum but also such a fact as ascites when present, by using the term tuberculous ascites, might be considered still more convenient by the clinician. He reminds us, as others who have dealt with the subject have done, of the difficulty of explaining the *rationale* of the success which frequently follows laparotomy in the specified circumstances.

It has been shown not to be due to the use of antiseptics or direct germicides. Mr. Watson Cheyne[1] concluded in his

[1] THE LANCET, Dec. 23rd, 1899, p. 1724.

Harveian Lectures that it was in some way due to bactericidal effusion of serum into the peritoneum after the abdominal incision and Mr. Owen inquires whether it be due to "letting air in or letting fluid out." That it need not be due to letting air in is argued by successful cases in which the peritoneal effusion is withdrawn by aspiration or other mode of paracentesis. This fact likewise casts doubt upon the essential necessity of laparotomy in some cases. But it may be questioned, also, whether even paracentesis be always necessary to a successful issue. It is a common experience that minor degrees of tuberculous ascites, especially in children, disappear with mere recumbency and flannel bandaging; and in THE LANCET of Oct. 11th, 1902, p. 989, Dr. Robert Knox of Highgate publishes a case which I saw with him, presumably of pleural and peritoneal tuberculosis, which made a satisfactory recovery under general management and abdominal strapping. The influence, as he points out, of a restriction of abdominal movement, coupled with mechanical support of the abdominal muscles, is to exaggerate thoracic respiration and aspiration and to increase lymphatic absorption. These effects exercised upon the circulation cannot be ignored in considering the results of procedures for the cure of the disease in the peritoneal cavity. And, again, the exaggerated respiration and aeration of the lungs thus induced cannot be denied their share, both in improving the state of these organs when simultaneously affected and in promoting a more vigorous pulmonary circulation.

The conclusion to be drawn from these considerations is that the influence of Harvey's work is felt even in the determination of this question at present so interesting to the surgeon. What success attends the open-air treatment of pulmonary tuberculosis, indeed, is probably due in part to the indirect influence of the measures adopted upon the circulation of the blood. The open window is doubtless something in such cases, but not everything, and the *poitrinaire* in his wind-swept hut might possibly at times be even more sheltered than he is at present with increased comfort to himself and no less advantage. The secret held and not yet revealed by the successful treatment of peritoneal tuberculosis may prove the key to the "cure of consumption." When revealed it may check the precipitancy with which "open-air treatment" institutions are now being erected.

I am, Sirs, yours faithfully,

ALEXANDER MORISON, M.D. Edin.

Upper Berkeley-street, W., Oct. 27th, 1902.

THE METRIC SYSTEM IN PHARMACY.

To the Editors of THE LANCET.

SIRS,—In the recent correspondence on this subject various ingenious suggestions have been made with a view to facilitate the translation of the terms denoting the weights and measures at present used in dispensing into those of the metric system. These suggestions may have distinct value, but none of them it is to be feared will be effectual to secure anything like general adoption of the metric notation. Indeed, no scheme which involves an act of translation can be expected to secure this result. What is wanted is to train physicians and pharmacists to think in metric terms. And this on a large and general scale can only be effected in the stage of studentship. So far, therefore, Mr. Kenneth Scott's suggestion in THE LANCET of Oct. 25th, p. 1152, is one having a large measure of promise. But it is, I suggest, necessary to carry the process of reconstruction still further back. Writers of text-books on materia medica and pharmacy are necessarily influenced, or even dominated, by the example and method of the Pharmacopœia, and so long as that volume expresses the doses of the various official medicines in terms of the current notation, so long will this notation be the one adopted in the text-books, demanded by the examiner, and acquired by the student. If, on the other hand, the official doses were expressed in metric weights and measures both teachers and examiners would be almost compelled to follow the same course, and the student, trained in this fashion, would naturally think and write in metric terms. In my judgment a great opportunity was lost when in the last edition of the Pharmacopœia the doses were printed solely in the terms of the present system. Such a decision was all the more astonishing seeing that the quantities of the substances to be used in making the official preparations were offered in both systems. Had the same plan been adopted in the statement of doses, more especially if priority of place had been given to the metric terms, modern text-books would have been framed on the same lines, and the student would have learned to write his prescriptions in the language in which he had been trained to think. A new edition of the Pharmacopœia is probably many years distant; but with it, I venture to think, the best hope of the adoption of the metric system in medicine rests. Once secure the expression of the official doses in terms of that system and all else follows—text-books, teachers, examiners, students, physicians, prescriptions, and pharmacists. Ease in translation will no doubt help an individual here and there to use a new language, but it will hardly make that language a common tongue.

I am, Sirs, yours faithfully,

Weymouth-street, W., Nov. 1st, 1902. C. O. HAWTHORNE.

To the Editors of THE LANCET.

SIRS,—The discussion on the use of the metric system in pharmacy must be largely academic until that system is taught, and exclusively taught, in our medical schools. As long as the prescriber *thinks* in grains and ounces, so long will his prescriptions be couched in those terms. Doubtless there are many medical men whose scientific investigations make it obligatory for them to possess a practical knowledge of the metric system; but the majority even of these, I venture to think, would only by a mental effort and by a process of translation write a prescription in the terms of that system.

As regards the relative advantage of weighing and of measuring liquids for medicines given internally, it must be remembered that the patient takes his dose by measure and not by weight. If, then, absolute accuracy of any active ingredient is desired a dose of that active ingredient must be represented by a definite fluid quantity of the medicine. It appears, therefore, that in such a case the weighing of liquids other than water is undesirable unless special regard is paid to their very varying specific gravities. Registered chemists generally are prepared for the change, whenever it may come, many of them having frequent occasion to prepare foreign prescriptions involving the use of the metric system. Moreover, it is hardly necessary to add that "a practical knowledge of the metric system of weights and measures" is required of all candidates for the "minor" or qualifying examination of the Pharmaceutical Society.

I am, Sirs, yours faithfully,

Oxford-street, W., Nov. 1st, 1902. WALTER HILLS.

THE MEDICAL DEFENCE UNION.

To the Editors of THE LANCET.

SIRS,—Before imposing an entrance fee the council of the Medical Defence Union should have ascertained the wishes of its members. To do anything which may tend to restrict the growth of the union is a doubtful policy; nor should it be necessary to impose a heavier tax on the smaller incomes of the more recently qualified practitioners from whose ranks the bulk of new members should naturally come. The reason given for this important change is the success of the union. This hardly constitutes an urgent matter and if the council will hold its hand for a few months the question can be far more satisfactorily decided at the next annual meeting.

I am, Sirs, yours faithfully,

Barking-road, E., Oct. 29th, 1902. PERCY ROSE.

A REMARKABLE CASE OF PNEUMOTHORAX.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to make a remark or two on the interesting case with the above heading, so well described by Dr. H. C. Morris in THE LANCET of Oct. 25th, p. 1124? It is, I think, an unusual thing for traumatic pneumothorax and emphysema to occur without being caused by the spicula of a fractured rib or some other mechanical injury to the lung. The affections in this case were doubtless caused by the excessive inflation of the lungs owing to the deep inspiration which the patient instinctively gave in his endeavours to avoid falling; thus, the rupture of an air vessel or two. One would have thought, falling from an altitude of 20 feet, that he would have sustained a fractured limb, but he fell on grass that may have been long and the soil may have been soft, both of which

would help to mollify the violence of the impact; this could hardly have been avoided if he had fallen on a slab or stone pavement.

Then the way a person falls is an important element in accidents of this kind. Some hunting men will tell you that they have learned to fall in a way that prevents broken bones. They curl themselves up and endeavour to meet the ground first with their arched backs. I once saw this neatly done by a young Horse Artillery officer who, having mounted his horse, struck a match to light a cigar before he had placed his feet in the stirrups. The horse, startled at the noise made by the match, jumped, kicked, and threw its rider a lofty somersault, but the rider, who fell on his rounded back on a flagged side path, was up in a moment unhurt and sprang on his horse again in quick time. Dr. Morris's patient would have been up and about in a few days were it not for the secondary symptoms that set in, but if he had fallen on his head instead of his feet most probably he would have been killed. This event was the result in the first accident of the kind we have recorded in history. We read in the Fourth Chapter of the First Book of Samuel that when Eli had heard of the catastrophe which had befallen the armies of Israel, of the death of his two sons, and that the Ark of God had been taken by the enemy "he fell from off the seat backward by the side of the gate, and his neck brake, and he died: for he was an old man, and heavy."

I saw a man fall from a height of 12 or 14 feet without receiving the slightest injury. He and a few friends were drinking in an inn in a room where a window had been temporarily removed. The man got up from the table, walked to the window (mistaking it for an open door), and stepped out, and, fortunately for him, he fell into a cabbage-garden. Several people ran to his assistance and when he had scrambled on his feet he looked up at the window from which he had emerged and at the long strip of blank wall between it and the ground and then he apostrophised the landlord with the malediction, "Bad luck to you, Terry McGrath, for it's yourself that has the high step to your hall dooer."

I am, Sirs, yours faithfully,

Lincoln, Oct. 28th, 1902. WILLIAM O'NEILL, M.D. Aberd.

THE USE OF INSUFFLATIONS FOR SUPPURATION OF THE ANTRUM OF HIGHMORE.

To the Editors of THE LANCET.

SIRS,—That a very bad case of antral empyema can be cured by the extraction of a tooth followed by the active use of antiseptic washings through the socket is within the experience of many practical surgeons, but that the persistent discharge of a chronic suppuration in the antrum of Highmore cannot be arrested quite so easily is only too evident after reading the experience of experts in these cases. A great deal of excellent work has lately been published on diseases of the accessory sinuses and anyone who follows these writings, as well as the discussion on the subject at the Manchester meeting of the British Medical Association, must be impressed with the difficulties of dealing satisfactorily with chronic cases of antral empyema. Without claiming anything like the experience desirable to form conclusions about relieving such intractable cases I feel that a most valued adjunct to the usual method of dealing with chronic maxillary sinusitis will be found in the insufflation of dry powders. It is generally admitted that the constantly moist condition which necessarily follows the repeated irrigation of mucous cavities like the middle ear is highly unfavourable to recovery from any purulent process, and that a bland powder in a state of fine division like boric acid is likely to give the most useful results. In the antrum of Highmore into which an opening has been made from the mouth we have just those conditions which Mr. Edmund W. Roughton has made us familiar with in his admirable lectures[1] delivered before the Medical Graduates' College and Polyclinic—viz., a perfect bacteriological incubator.

Now, keeping these conditions in view, one is justified in hoping for the best results in any uncomplicated case of chronic discharge from the maxillary antrum by having resource to some such method as the following. Having made a good-sized perforation through the alveolus and irrigated the cavity with antiseptic solutions as suggested by Dr. Herbert Tilley in a recent paper[2] we may with advantage follow this up by repeated insufflations of dry boric powder to which has been added a little menthol or carbolic acid. Any ordinary insufflator fixed to the antral tube will meet all requirements and the method of doing it will suggest itself naturally. In my own practice I use pulvis acidi borici impregnated with a concentrated tincture of calendula officinalis mixed with five grains of menthol to the half ounce, and I blow this powder to every corner of the cavity by means of a Kabievskie's insufflator fixed to the end of a large-sized Symonds's antral pipe. To test the efficacy of the treatment the antrum is washed out periodically with a clear antiseptic solution (carbolic acid 1 in 40 or even weaker) by means of a modified Higginson's syringe and the washings are received into a vulcanite dish, the object of the clear solution and black vessel being obviously to detect any purulent matter. Having satisfied oneself that the solution runs clear the bucco-antral opening is allowed to close, and that all the more readily because the chances of reinfection from the mouth are rendered improbable by the presence of an antiseptic powder in the maxillary antrum.

I am, Sirs, yours faithfully,

WALTER WILLIAMS, M.B. Glasg.

Portmadoc, North Wales, Oct. 26th, 1902.

[1] THE LANCET, Sept. 27th (p. 847), Oct. 18th (p. 1029), and 25th (1108), 1902.

[2] Brit. Med. Jour., April 19th, 1902.

RIGHT-HANDEDNESS AND LEFT-BRAINEDNESS.

To the Editors of THE LANCET.

SIRS,—Though quite agreeing with Professor D. J. Cunningham as to the existence of a preferential right-handedness, it is a question whether this is due to some structural foundation transmitted from parent to offspring or a functional activity or pre-eminence acquired during the lifetime of the individual. Facts would seem to point to the latter as being the true explanation. It is true that growth, and therefore the circulation, in plants tends from right to left and it may be so in brain circulation, for active function means and demands an active flow of nourishing blood. Be that as it may, I think that clinical evidence points to acquired rather than to transmitted or hereditary function.

The skilled pianist or violinist goes through as intricate muscular movements with the left as with the right hand, and even where the muscular movements are more directly due to skilled automatism, say of one hand, it is evidently due to acquired educational movements, purely functional and not necessarily dependent on any structural foundation. A lady, a friend of mine, after undergoing an operation on the right arm conducted her somewhat voluminous correspondence with her left hand, and there was no difficulty in reading and recognising her characteristic penmanship. Another illustration is the case of another friend, an engineer and architect, who after having his right arm torn out from the shoulder-joint kept his appointment and did all his necessary drawings and designs with his left hand; thus, though we have a preferential right-handedness, we may when this is lost have a compensatory one in the left, the result of education and necessity. Therefore it seems to me that it is going too far to maintain that the left hand holds a subservient position in reference to the right—the one is simply on duty, the other is not.

I am, Sirs, yours faithfully,

JAMES MORE, M.D. Edin.

Rothwell, Northamptonshire, Nov. 3rd, 1902.

GUY'S HOSPITAL SOUTH AFRICAN MEMORIAL.

To the Editors of THE LANCET.

SIRS,—A memorial will shortly be erected within the precincts of Guy's Hospital to the memory of those Guy's men whose lives were lost in the service of their country during the South African war. The memorial will take the form of a drinking fountain to be placed in the colonnade, and a suitable design by Mr. Frederick Wheeler, F.R.I.B.A., has been selected. The committee is very anxious that the names of all Guy's students, past and present, who lost their

lives in the war should be recorded on the memorial. At present the list is as follows: H. A. Bryant, H. Bernard-Ornaet, R. T. Fitz-Hugh, L. J. Hughes, T. Jones, H. Pope-Walker, F. M. Russell, C. B. Sells, F. Welford, and S. Whicher.

If there are other names which have not been brought to the notice of the memorial committee I trust this letter may be the means of eliciting the desired information.

I am, Sirs, yours faithfully,

FREDERICK TAYLOR,
Senior Physician to Guy's Hospital.

Guy's Hospital, London Bridge, Nov. 1st, 1902.

THE PHYSICAL AND MEDICAL EXAMINATION OF CANDIDATES FOR COMMISSIONS IN THE ARMY.

To the Editors of THE LANCET.

SIRS,—What I took exception to in the above article was the statement "can read D. = 6 at six metres," and I did not say or infer that Snellen's types were not alluded to in the text-books. The writer of the article in his reply represents me as asking the meaning of "vision = D. 6 at six metres," which is an equally inexact expression. In his explanation he says D. 6 means the six-metre type, but all Snellen's letters are six-metre type, inasmuch as the person to be tested is generally placed at that distance. I was under the impression that in the usual formula $V = \frac{d}{D}$ the letter "D" stood for a *distance*—viz., the distance at which any particular letter subtends a visual angle of five minuits. The amplification of this in the War Office regulations seems quite unnecessary and so far from elucidating the matter it really complicates it.

I am, Sirs, yours faithfully,

Wimpole-street, W., Nov. 4th, 1902. KENNETH CAMPBELL.

THE CAMBRIDGE EXAMINATION FOR THE DEGREE OF M.B.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would allow me to call the attention of medical students to a Grace which is to be offered to the Senate of the University of Cambridge on Thursday next. The effect of the Grace in question is that any student who has already passed both parts of the second examination for M.B. will be allowed to present himself for examination in surgery and midwifery under the old regulations respecting certificates of study.

I am, Sirs, yours faithfully,

J. FRED. E. FANING,
Assistant Registrar.

Cambridge, Nov. 3rd, 1902.

MASSAGE AND MOVEMENT IN SPRAINS AND DISLOCATIONS.

To the Editors of THE LANCET.

SIRS,—I have read Dr. W. Doig's reference to massage and movement in the treatment of sprains and dislocations in THE LANCET of Nov. 1st, p. 1222. He seems to date the commencement of such treatment at February, 1898, whereas 10 years previously[1] I had published a description of the good effects of daily movements after the reduction of dislocations and I do not claim to have been the first to advocate this line of practice. In my contribution I stated the principles which I thought should generally be applied in such treatment.

In substance my recommendations ran as follow: (1) To allow as short a time as possible to elapse before the reduction of the dislocation was attempted; (2) to avoid, as a rule, making such attempts until the patient was under an anæsthetic; and chiefly (3) daily movements of the joint, commencing soon (24 hours, perhaps) after reduction.

This active treatment is not only applicable to sprains and dislocations, but may well be applied to fractures also and especially to fractures in the neighbourhood of joints. The appreciation of the value of massage and early movement in the treatment of dislocations and fractures seems to be gaining ground in recent years, but some writers apparently date its introduction to a quite recent time. I do not know to whom the credit is due of originating the methods referred to, but I do know that I was very severely criticised and found fault with when I recommended such a line of practice in 1882. It is 20 years since I first wrote in advocacy of frequent passive movements of joints near fractures[2] and it is six years since I published the results[3] I had obtained by early strapping, early movement and massage in the treatment of fracture of bone. This fact was referred to in a leading article in THE LANCET of Feb. 5th, 1898, p. 380, in which, after describing this method of preventing the stiffness so common after repair of injured bones and joints, the article states, "some two years ago Mr. Noble Smith called attention to this subject at a meeting of the Medical Society of London."

I quite agree with Dr. Doig that the treatment of sprains and dislocations (and, I would add, fractures) by massage and movement "is not sufficiently known," or, I would rather say, the advantages of that treatment are not sufficiently recognised.

I am, Sirs, yours faithfully,

Queen Anne-street, W., Nov. 3rd, 1902. NOBLE SMITH.

MEDICINE AND THE LAW.

To the Editors of THE LANCET.

SIRS,—With reference to the annotation in THE LANCET of Nov. 1st, p. 1209, under the above heading, I think it is quite clear that as the law at present exists the mere absence of a death certificate by a registered medical man, or even the refusal of such, is not in itself a sufficient ground for holding an inquest.

The words of the Coroners Act, 1887, S. 3 (1), are fairly clear and direct that inquests shall be held "where there is reasonable cause to suspect that such person has died either a violent or unnatural death or has died *a sudden death of which the cause is unknown* ....." It is to be particularly noted that the death must both be sudden and from an unknown cause; both of these factors must be present and uncertainty as to the definite cause of death is by itself insufficient to warrant an inquest. It is, I presume, through overlooking this fact that the Birkenhead coroner has been led to make his innovation, doubtless arguing that if there were no certificate of death by a registered medical practitioner he was justified in assuming that the death was from "cause unknown." That this is in itself insufficient is, I think, evident from the above.

There are no decided cases on the point as those generally quoted, such as in *re* Hull, 9 Q.B.D. 689, and Reg. *v.* Price, 12 Q.B.D. 247, are anterior to the Act of 1887. But an *obiter dictum* of Sir James Fitzjames Stephen in Reg. *v.* Stephenson, 15 Cox C.C. 679, may be quoted as bearing somewhat on the matter in hand. He then said: "Were a coroner to insist upon holding an inquest without having reasonable grounds for holding it I do not say that he would not be liable to an action."

I am, Sirs, yours faithfully,

Nov. 3rd 1902. MEDICAL JURIST.

MANCHESTER

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary.

FURTHER steps are being taken in the reconstitution of the infirmary board. The present board of management is to resign on Nov. 13th, and a special meeting of trustees is to be held on Nov. 14th for the election of a new board, which will consist of 25 members, of whom 21 are to be elected by the trustees and four by the medical board. The dates fixed for the resignation of the present board and the election of a new authority are considered by many to be inconveniently near, and a feeling of irritation has been produced that might have been avoided. No one wishes to believe, what has been publicly stated, that the old board is desirous of making it difficult for the trustees to get together a new board. The list of nominations has been issued and bears out the words of a circular sent to the trustees, on

[1] Brit. Med. Jour., Jan. 7th, 1888.

[2] Surgery of Deformities, 1882.

[3] Brit. Med. Jour., Feb. 13th, 1896.

behalf of the trustees' committee by Judge Parry and Mr. Bell. In this circular they said that the trustees' committee had a list of 21 nominations composed of old members of the board and of new names of such a character that when the trustees saw the list they would probably agree that there was no necessity for names of other candidates to be put up in opposition. It will, however, be generally regretted that Judge Parry's name is not among the nominations.

Care of the Feeble minded.

The annual meeting of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded was held in the Manchester Town hall on Oct. 21st, Alderman Hoy, the Lord Mayor, presiding. He spoke in approval of the feeling in favour of helping those who cannot help themselves, and said also that "he was not sure whether factory labour, with the conditions of heated atmosphere and monotony, was likely to result after generations in a robust race." This was, no doubt, his way of saying that it was not likely to do so, and all who have experience of the stunted, pallid factory-workers will agree with him. But when and how soon this deterioration of race shows itself in feeble-mindedness requiring constant care is a problem not yet worked out. The report stated that the first boys were taken into the school at Sandlebridge on May 2nd and the first girls on Sept. 2nd, that there were now 14 boys and nine girls in residence, and that there had been a most remarkable improvement in their manners and health. Two were from Bolton, seven were from Salford, and the others were Manchester children. The schools will soon be full and the committee regrets that it has not money in hand to build two more at once. But its next undertaking must be the erection of adult schools to receive the scholars at the age of 16 years. The committee invites help in raising the fund necessary for these purposes. Canon Hicks, in moving the adoption of the report, called attention to the fact that 1 per cent. of the children in public elementary schools were classed as feeble-minded and that there must be 70,000 in the country who ought to be dealt with by some such methods as those of the society. The Dean of Manchester remarked on the almost entire absence in England of provision for the permanent care of the feeble-minded, and read a letter from Dr. H. B. Donkin, who, as Prison Commissioner, saw the results of the lack of control of the feeble-minded, in which Dr Donkin stated that about 3 per cent. of all male convicts had been weak-minded in various ways and degrees from infancy. It was evidently the feeling of the speakers that there should be power to retain a permanent hold of feeble-minded children who if unrestrained perpetuate a degenerate and largely criminal class.

Presentation to Dr. A. Emrys Jones.

On Oct. 25th a large and representative gathering of the Welsh people of Manchester assembled for the purpose of presenting Dr Emrys Jones with his portrait, "in recognition of his services as chairman for 15 years of the Manchester Welsh National Society, and of his public work in connexion with Welsh educational, literary, and other interests." Judge Bowen Rowlands presided. Letters bearing cordial testimony to Dr. Emrys Jones's public work were read from the Bishop of St. Asaph, Sir Lewis Morris, Sir Isambard Owen, Principal Rhys, Principal Reichel, Dean Howell, Professor Owen Edwards, and many others. In acknowledging the gift, Dr. Emrys Jones said that this mark of appreciation by his fellow countrymen in Manchester and throughout Wales would be a strong inducement to him to work harder than ever to help to make Wales an honoured contributor to the common life of the Empire of which they were all so proud.

Nov. 4th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary.

IN spite of the successful efforts made last year, notably by the mayor, Mr. Thomas Andrews, to clear off the debt upon the Cardiff Infirmary the managers are still unable to make full use of the institution. At the beginning of October it was stated that there were 120 male surgical patients awaiting admission and on Oct. 3rd Mr. Andrews suggested that an appeal should be made to 10 gentlemen to subscribe 50 guineas each in order that a ward of 10 beds might be opened for some of these patients, and within a fortnight the required amount was provided. It has been decided to institute an Infirmary Sunday, the collections in churches and chapels hitherto having been only spasmodic and yielding less than £400 annually, a sum which compares very unfavourably with that produced by Sunday collections in other towns. The workpeople in the adjoining colliery districts subscribe very generously to the funds of the infirmary, but those in the town of Cardiff have never given to it the support which is rendered to similar institutions by their fellows in other towns.

The Fight against Tuberculosis.

The executive committee of the South Wales and Monmouthshire Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis has passed a resolution approving the establishment of "anti-tuberculous dispensaries" in the county boroughs and other centres in South Wales and Monmouthshire with a view to the early diagnosis and treatment of cases of tuberculosis and has referred to a committee the practical application of the proposal.

Superannuation of a Poor-law Medical Officer.

Mr. Joseph Davies, who recently retired from the Poor-law service after being medical officer to one of the Swansea districts for 15 years, has been granted a superannuation allowance of £55. The board of guardians added 10 years to Mr. Davies's period of service, thus increasing the amount to which he was entitled by £16.

Carmarthen Asylum

At a meeting of the committee of the visitors of the Carmarthen Asylum held on Oct. 30th a report of the Commissioners in Lunacy was read which stated that the asylum at the time of their visit was overcrowded, there being 26 patients in excess of the proper number. The Commissioners recommended an improvement in the dietary and commented upon the somewhat poorly nourished condition of some of the patients. The average weekly cost of each patient during the third quarter of this year was 8*s.* 2*d.* The Carmarthen Asylum has accommodation for 576 patients and serves the counties of Carmarthen, Cardigan, and Pembroke.

Poor law Statistics.

A statistical report has recently been issued by Mr. E. B. Wethered, Local Government Board inspector, relating to the 44 Poor-law unions within his district which includes Gloucestershire and Worcestershire and portions of Herefordshire, Somersetshire, Staffordshire, and Wiltshire, having a total population at the last census of nearly 2,000,000 persons and a rateable value of nearly £9,500,000. On Jan. 1st, 1902, the number of paupers being relieved in the whole of this district was 53,694, giving a proportion of paupers to the census population of 1 in 36. This proportion varied considerably in the different unions and was 1 in 16 in Wheatenhurst (Gloucestershire), 1 in 18 in Dore (Herefordshire), and as low as 1 in 54 in Barton Regis (Gloucestershire) and 1 in 50 in the Bath union. In those unions which include large towns the proportion was in Dudley 1 in 27, Wolverhampton 1 in 31, Bristol and Bromsgrove 1 in 38, and in Walsall and West Bromwich 1 in 44. The total amount expended in the whole district upon the relief of paupers during the year ending March 25th, 1902, was £346,000, a sum equal to a rate of 8½*d.* in the pound, and the cost per head of the population in the entire district was 3*s.* 6½*d.* This last amount varied from 2*s.* 5½*d.* in the Stourbridge (Worcestershire) union to 6*s.* 10½*d.* in the Dore union.

Lead Poisoning.

Fatal cases of lead poisoning are sufficiently rare to justify a brief reference to those which do occur. An inquest was held on Oct. 30th upon the body of a man, 29 years of age, who had been employed in white-lead works and who died in the Bristol General Hospital, where he had been a patient for 10 days. The medical evidence showed that his death was clearly due to lead poisoning. Dr. T. M. Legge, His Majesty's medical inspector of factories, stated at the inquiry that during this year up to the present time there had been reported to the Home Office only 103 cases of lead poisoning among white-lead workers and that this was the first one which had terminated fatally.

Small-pox.

Twelve cases of small-pox occurred in Merthyr Tydvil during the week ending Oct. 18th and there was one case

during the following week. On Oct. 26th and 27th three patients were removed to the small-pox hospital. Newport has been free from small-pox for several months, but on Oct. 25th a woman who was on a visit to the town from Merthyr was found to be suffering from the disease. She died on the following day. Four persons residing in the same house with this patient and two others, a man and a child living in a house immediateiy opposite, have also been attacked and have been removed to the small-pox hospital.

West of England Eye Infirmary, Exeter.

The ninety-fourth annual meeting of the subscribers of this institution was held on Oct. 31st. The report in alluding to the new building, which has now been used for 12 months, stated that the governors had to draw on their capital to the extent of £6850 in order to make up the deficit on the building fund and the committee makes an urgent appeal for this amount. The medical report stated that 3375 patients were treated during the past 12 months and that the daily average number of in-patients was 46. The financial statement showed that the ordinary expenditure was £1680, being about £400 in excess of the ordinary income.

Nov. 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University Rectorial Election.

THE triennial election of a Lord Rector for the University of Edinburgh took place on Nov. 1st. The candidates were Sir R. B. Finlay, M.P., representing the Unionist interest, and Sir Edward Grey, representing the Radical interest. As I mentioned last week the contest was conducted on purely political lines and was waged with great keenness and some bitterness. The poll resulted in the return of Sir R. B. Finlay over Sir E. Grey by 916 to 621 votes, giving the former a majority of 295. In the quadrangle of the old buildings there was on the polling day the excitement and horse-play which are the time-honoured accompaniments of the rectorial election. In the evening party divisions were put aside and there was a very successful torchlight procession through some of the principal streets of the city.

The Edinburgh Royal Infirmary and Sunday Concerts.

A curious point was brought up on Nov. 3rd at the weekly meeting of the board of managers of the Edinburgh Royal Infirmary. A letter was received from a "Christian Sabbath Society" inclosing a copy of a resolution passed by the society; it ran as follows:—

That this meeting fears that the action of the Sunday Society in associating with themselves various benevolent institutions will attract the sympathies of many thoughtless as well as irreligious people, and they would rejoice if such institutions declined to participate in such unholy gains.

The Sunday Society referred to in this resolution is a society which has for its aim the providing of entertainments, usually musical, for the masses on Sunday. The special entertainment pilloried on this occasion was a Sunday afternoon or evening concert given in the Waverley Market, the proceeds of which were advertised to go to the Royal Infirmary. There was a difference of opinion as to how the matter ought to be treated, but as no cheque had yet been received from the Sunday Society for their "unholy gains" it was decided to postpone the consideration of the question. Meanwhile, the *Scotsman* newspaper has a leaderette in which those who objected to accepting money raised in this way are somewhat severely handled. Hitherto, so far as is known, there have been no objections to using the name of the infirmary as the Sunday Society used it; but it is of course conceivable that this is a liberty which might be abused.

Sir W. Turner, K.C.B., on Scottish Craniology.

Sir William Turner on Nov. 3rd made an interesting communication to the Edinburgh Royal Society entitled "A Contribution to the Craniology of the People of Scotland." He had examined about 200 skulls. There was a great range of variation, but 28 per cent. were dolichocephalic, 20 per cent. were brachycephalic, and 52 per cent. were intermediate between these. Another character of the crania was that the height was less than the breadth. They were capacious and accommodated large brains. The consideration of the characters noted in their bearing on the ethnology of the people of Scotland Sir William Turner reserved for a subsequent communication.

Glasgow Obstetrical and Gynæcological Society.

The opening meeting of this society was held in the Faculty Hall on Oct. 22nd, when the newly-elected President, Dr. J. Nigel Stark, gave the opening address. He thanked the Fellows for the honour that they had conferred upon him in electing him to the office he now held and said that as he was the first President appointed in the twentieth century he would attempt to bring before the minds of his hearers a picture of the position of medicine, and more especially obstetrics and gynæcology, 100 years ago. This he did, illustrating his remarks by the views expressed in "Burns's Midwifery." He said that in the future much had yet to be achieved, and as instances the case of cancer of the uterus as a gynæcological, and the prevalence of puerperal infection as an obstetrical, problem were discussed. The decreasing birth-rate and the still large infantile mortality were also touched upon as subjects for future inquiry and judgment. A vote of thanks was proposed by Dr. R. Jardine, the retiring President, and was seconded by Dr. J. M. Munro Kerr. A number of preparations and microscopic sections were exhibited by Dr. J. Edgar.

Victoria Infirmary, Glasgow: Dinner of Past and Present Resident Assistants.

A dinner of past and present resident assistants of the Victoria Infirmary was held in the restaurant of Messrs. Ferguson and Forrester on Oct. 28th and proved a very successful reunion. Dr. J. Grant Andrew presided and pointed out in his speech that, including the present residents, there had been 47 residents since the infirmary was opened 13 years previously, adding that it was by reason of the fact that he was the first resident assistant that he occupied the chair. Dr. William Dove MacFarlane (Busby) and Dr. Douglas W. Russell (Langside) acted as croupiers. 39 sat down to dinner, including Dr. D. J. Mackintosh, medical superintendent of the Western Infirmary, as guest. One of the former residents, Dr. Binnie Dunlop, gave an interesting account of his experiences while on active service in South Africa and a very pleasant evening was brought to a close by the drinking of the chairman's health.

The Glasgow Southern Medical Society.

At the opening meeting of the present session of the Glasgow Southern Medical Society the President, Dr. D. Macgilvray, delivered his address. He took for his subject the Origin and History of the Science of Medicine from the Times of the Great Hippocrates. Most of the address was devoted to the life and career of Hippocrates. Dr. Macgilvray gave his hearers an account of the methods of treatment in vogue at the various temples of Æsculapius, more especially at Cos, where Hippocrates practised for some time. He pointed out how very modern in some ways was the treatment of the father of medicine, instancing especially his instructions for the treatment of club-foot. Many of his aphorisms were quoted, and Dr. Macgilvray drew attention to the terms of the Hippocratic oath which, he said, if acted up to at the present time would give satisfaction to all concerned. The progress of medicine and surgery during the early years of the Christian era was referred to and thus Dr. Macgilvray arrived at the dawn of medical legislation in the school of Salerno. He concluded by giving a rapid sketch of the further progress of medicine and surgery and finally exhorted his hearers to venerate the past but not to depend too much upon it. "Let us rather advance ever and onward, using all the valuable help we can get to enable us to solve the complex problems of life that are presented to us in this twentieth century."

Nov. 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland: the President's Address.

THE President of the Royal College of Surgeons in Ireland, Mr. L. H. Orpen, on the occasion of the presentation of medals and prizes to the successful students of the School of Surgery on Nov. 3rd delivered a very interesting address. He dealt with the prospects of a young surgeon more

especially in the Royal Army Medical Corps and in the ranks of the Irish Poor-law medical service. Speaking of the former, he said that the present Secretary of State for War, the Hon. Mr. Brodrick, with the enthusiasm and determination of a great reformer, had established an Army Medical Staff College in London to replace Netley Hospital which as a medical school had been abolished, while it of course remained as a great military hospital. Many other reforms, he said, were being accomplished, and the Army Medical Service would soon afford great advantages to the young medical men of culture, efficiency, and social position who joined it. The President then directed the attention of his audience to the gross and heartless treatment which was meted out in many instances to their medical brethren in the Irish Poor-law medical service throughout the country, particularly on the question of superannuation after a lifetime of ill-requited labour, the average salary of the Irish medical dispensary officer being represented by a fraction less than £100 per annum. The President mentioned many instances of unfair treatment by the local boards of guardians and concluded by strongly advising young medical men of ability and spirit not to join the Irish dispensary service. In giving this advice Mr. Ormsby only repeated the earnest recommendation of his predecessor in office, Sir Thomas Myles.

The Royal University of Ireland.

At a meeting of the senate of the Royal University on Oct. 30th Professor T. Sinclair of Belfast was elected a member of the standing committee in place of Sir W. Thomson who lost his seat on the senate at the last election of representatives of the graduates. As is well known, this standing committee is the executive body of the Royal University and it consists of 16 members, of whom four are medical men. Up to the present date, since the foundation of the university in 1879, every medical member of the standing committee has resided in Dublin, although the Belfast medical school sends up more than one-half of the candidates for examination. The election of Professor Sinclair is attributed to the unanswerable evidence given before the Royal Commission on University Education in Ireland when its members sat in Belfast in April of this year; and secondly, to the late election of members to represent convocation on the senate. Fair play must be given to the northern medical school whose students outnumber all those sent from other places in Ireland for the medical examinations at the university.

The Health of Belfast.

For the period embraced between Sept. 14th and Oct. 18th the death-rate of Belfast was 20·4 per 1000, while for the corresponding period of last year it was 18·1. The death-rate during this period has been gradually increasing and the number of deaths from zymotic diseases (127), chest affections (207), and the total from all causes are somewhat higher than in the corresponding period of last year. It is stated that 1000 loads of accumulated matter in two streams—the Pound burn and Blackstaff river—have been removed since the recent floods and that this obstruction to their course caused the flooding. The medical officer of health recommends regular and systematic cleaning of the beds and arches of these streams to prevent future flooding which is so deleterious to the health of the inhabitants of the part of the city affected.

The Belfast Medical School.

The number of students at the Royal Victoria Hospital this year is 139, only four less than last year; at the Queen's College there is a slight decrease in the first year medical students, but on the whole the numbers are keeping up.

The Forster Green Hospital, Belfast.

At a meeting of the general committee of this hospital held on Nov. 1st at the institution, it was reported that there were now 38 beds for patients but that the number seeking admission was still greatly in excess of the accommodation. 176 cases have been treated during this year, 81 men and 95 women. With the exception of the 10 beds at the Thorne Hospital this is the only institution of the kind in Ulster for the poor, and it is a pity that it does not yet receive that measure of financial support to which it is entitled. There is a debt of £213 still to be met in addition to the current expenses of the year. £600 per annum has been the usual amount of subscriptions but double this sum is needed. In Belfast 1000 die annually from tuberculosis, and to be able to treat only 176 patients per annum is a very small attempt to deal with the question.

Cork Medical and Surgical Society.

The annual dinner of this society was held at the Imperial Hotel, Cork, on Nov. 1st. Dr. P. T. O'Sullivan, President of the society, occupied the chair, the vice-chair was occupied by Dr. J. Cotter, Vice-President, and about 50 members and guests sat down to dinner. After the usual loyal toasts had been duly honoured the President proposed the toast of "The Cork School of Medicine," which was responded to by Professor W. Ashley Cummins. The toast of "The Naval and Military Medical Services" was responded to by Colonel J. Macnamara, R.A.M.C., principal medical officer of the Cork district, and Staff Surgeon J. Moore, R.N. Mr. S. H. Newsom, honorary treasurer of the Cork South Infirmary, responded to the toast of "Our Guests." Mr. M. D. Daly, J.P., honorary treasurer of the Cork Fever Hospital, then proposed the toast of "The Cork Medical and Surgical Society," which was responded to by the President. Songs and a selection of instrumental music added greatly to the enjoyment of the evening.

Nov. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Workmen's Compensation Act and Hospital Abuse.

I HAVE on many previous occasions given your readers some idea of the various annoyances to which the medical profession is exposed by reason of the law concerning compensation to workmen for accidents or injuries incurred in the course of their employment. The law was passed about two years ago and gave the injured workman the right to demand medical care and in case of permanent disablement a pension. These rights, however, were in existence before the passing of the new law, but then the matter was decided by the courts which took into consideration the means of the workman and the means of the employer. The new law set up a different state of things, whereby the employer has to pay according to a definite tariff and perhaps is compelled to keep his injured workman for the remainder of his life. The natural result has been that employers have transferred their responsibilities to assurance companies, and now medical men instead of fighting employers for their fees have to fight the companies. These latter naturally wish to get off as cheaply as possible, and although the law simply says that the workman shall choose his own medical man who shall send in his bill to the employer or to the assurance company concerned, the said companies do all in their power to do away with the choice of the workman and to substitute their own medical man. He, too, is paid extremely badly, for the companies always choose some young newly qualified man who is just starting in practice. In a letter which appeared in THE LANCET of Oct. 25th, p. 1159, I mentioned the grave disagreement which had occurred in the Syndicate of Medical Men of the Seine with regard to this question. Looking at the matter from another point of view the companies manage to get out of paying almost all the fees for attendance which would be due, by sending patients to the hospitals. In France really necessitous persons are treated at the public hospitals free of charge, non-necessitous patients being charged from three to five francs per diem, although the actual cost of their maintenance and treatment comes, in Paris, to about 15 francs per diem. The enormous expense which is thus thrown on the Assistance Publique is quite legitimate when the really necessitous are the cause, but medical men have for some time past been protesting against persons in easy circumstances who pay five francs per diem and receive treatment in the hospitals or who sometimes enter posing as their own servants and pay nothing. The companies, of course, find this method very cheap and send all cases in which they are interested to the hospitals, paying for them two or three francs respectively while no medical man gets anything at all. Last year at the Congress of Provincial Surgeons it was announced that Dr. Bousquet of Clermont-Ferrand and Dr. Reynès of Marseilles had convened a private meeting of surgeons at which it was determined that patients sent in by rich assurance companies should not receive gratuitous treatment, and this year at the fifteenth session of the French Association of Surgery Dr. Reynès showed that not only were medical men imposed upon by the practice

but also really indigent workmen. For if these latter sought admission to a hospital for injuries caused by accidents not coming under the operation of the Compensation Act they were liable to be refused admission because all the beds were taken up by patients sent in by the assurance companies. Dr. Reynès also suggested that patients sent in by rich companies should be made to pay a reasonable sum for maintenance and that the hospital physicians and surgeons should be given some small remuneration according to a reasonable tariff. This custom already obtains in certain towns, more particularly in Bordeaux, of which city Dr. Lande is the mayor. There accident cases pay three francs per diem instead of two francs. Half this sum goes to the medical staff and the other half pays for dressings and drugs. This increase of one franc amounted during 1900 and 1901 to 66,400 francs in Bordeaux and in Marseilles to 94,000 francs. In June of this year Dr. Lande attended a meeting of the Superior Council of the Assistance Publique and managed to get this body to decide that the hospitals should raise the price of board for accident cases and should further charge for medical attendance and drugs. The recent meeting of the Association of Surgery came to an exactly similar decision and sent a deputation of three members to the Minister of the Interior who received them courteously and undertook that this decision should apply to all hospital administrations throughout France and the colonies. The matter is much more pressing in Paris than elsewhere, for there, by an extraordinary exception, the assurance companies do not pay the five francs which other members of the public pay but only two francs 50 centimes per diem. Thus, thanks to the persistent agitation of Dr. Bousquet and Dr. Reynès, medical men have gained their cause. It remains to be seen whether the Minister will seriously abide by his promise, for in this matter, as in all French administrative questions, politics come in. The support of the assurance companies is necessary to the Government for the application of this law. If the companies are made to increase their expenses they will naturally raise the amount of their premiums and then the small employers will be obliged to dismiss some of their workmen to meet the increased expenses of insuring for the rest. The whole question is a further proof of the oft-made statement that the cost of any philanthropic or social improvement in France eventually falls on the medical profession, to the profit not only of the really necessitous but of everyone else.

The Prognostic Significance of the Lipasic Power of Serum.

At the meeting of the Society of Biology held on Oct. 17th M. Charles Achard and M. A. Clerc brought before the society the results of some observations which they had made in confirmation of their previous researches upon the very grave significance from a prognostic point of view of a lowering of the lipasic power of the serum. Thus in a case of pneumonia which did not appear particularly severe the lipase[1] fell to 6·5 and death supervened three days later. On the other hand in an apparently very severe case of typhoid fever, the lipase remained at 13 and the patient recovered. In two cases of tuberculosis of the urinary tract the lipase fell to 9 in one patient who was markedly cachectic and had in addition pulmonary lesions, while in the other who had no pulmonary lesions it remained at 16 and the patient underwent an operation for nephrectomy with success. In a case of empyema following pneumonia the lipase, which had fallen to 8, rose to 14 two days after the evacuation of the pus and recovery followed. In another case of the same kind which was operated on at a late date, the patient being in a very low condition, the lipase, which had fallen to 5·5, remained at this low figure on the day following the operation. It then gradually rose to 11, but the wound became septic and the lipase fell to 6·5, the patient dying a few days later.

Nov. 4th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Severe Cases of Puerperal Fever.

PROFESSOR VON HERFF of Basle spoke on this subject at the half-yearly meeting of Swiss medical practitioners at Olten on Oct. 25th. He said that he had not found local treatment by irrigation of the uterus to be of much avail, as the virulent bacteria had generally already invaded the deeper tissues and were out of reach. He only recommended one or two uterine douches with an antiseptic solution such as chlorine water at the onset of the symptoms. This antiseptic is innocuous, whereas he has known great damage to be done by irrigation with solution of corrosive sublimate, and had even known of several fatal cases of metallic poisoning. "*Ruclement*" of the uterus, which afforded good results in cases of abortion, was to be avoided, as it only caused more damage by removing protective mucous membranes. Serum treatment did not give uniformly good results, probably because the disease was generally a mixed infection and it was only possible to inject an antidote to one portion of the poison introduced into the system. Moreover, severe cases were not generally treated by injection at the onset, but only after other therapeutic measures had been tried. A new method of treatment consisted in the intravenous injection of solutions of salts of metals such as copper or silver. As copper had a detrimental influence on vegetable protoplasm even when diluted to one thousand million times (*sic*) it must be supposed to have a catalytic influence on animal tissue. Professor von Herff had employed 1 per cent. injections of collargol and had seen some most striking recoveries. He injected from five to 10 grammes of this solution every day or every other day. Further clinical evidence must be produced before a definite opinion could be arrived at as to the therapeutic value of these agents. Professor von Herff laid the greatest stress on absolute rest; the patient should never stir and be moved only horizontally and as little as possible. Ergot helped to promote involution of the uterus and strychnine strengthened the action of the heart. He greatly disapproved of the free administration of alcohol as a part of the treatment, and he even found that his patients did better and had more appetite if they were not allowed to have alcohol in any shape whatever. He often applied cold packs to the abdomen.

Rectal Feeding.

At the same meeting Dr. P. Deucher of Bern spoke on rectal feeding. It should only be used for short periods of time (five or six days) if no other nourishment were allowed but for longer periods if subcutaneous or intravenous injections of sodium chloride solution were simultaneously given. It was disadvantageous to feed by the mouth at the same time, as simple enemas (*Reinigungsclystiere*) had to be given before each introduction of food into the rectum and the mucous membrane of the bowel became irritated and diarrhœa often ensued. Eggs were well suited for rectal feeding and three at a time could be introduced if one gramme of sodium chloride for each egg were added (Huber). This promoted absorption. Albumoses (peptonised food) were absorbed much faster, being pre-digested, but it must be remembered that 60 grammes (two ounces) of peptones afforded only as much nourishment as one and a half eggs. Mixtures of egg and peptone or peptone and sodium chloride were absorbed much more slowly. Milk was not advantageous for rectal feeding as large quantities were necessary and these acted as irritants; decomposition also took place more rapidly. Wine was scarcely to be recommended owing to its reflex irritative action on the small intestine and stomach. Starch was well absorbed but far too slowly for practical purposes. Fatty substances must be avoided. The most important carbohydrate was sugar (either grape sugar or cane sugar). Schönlein found that nearly 90 per cent. of such a solution was absorbed in one hour. It was not advisable to give more than one ounce or one and a half ounces with 10 times the amount of fluid three times a day. It was always necessary to add opium or to give a suppository of opium. Rectal feeding was not to be recommended in phthisis or diabetes, but could be used with the best results after surgical operations and especially during the acute stage of gastric ulcer with or without hæmorrhage.

Zürich, Nov. 3rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Dr. Baccelli on State Medicine.

THE Twelfth Congress of Internal Medicine was opened this morning in the University Library with an address by His Excellency the Minister of Agriculture, Dr. Guido

[1] THE LANCET, Dec. 28th, 1901, p. 1823. Lipase: the Fat splitting Enzyme.

Baccelli. There was a numerous assemblage representing all the schools, provincial and urban. After thanking the Congress for having made him its president for the twelfth time, Dr. Baccelli proceeded to enlarge on State medicine as the culmination of clinical observation and research. From experience at the bedside to legislative interest in the health of the community the rise was steady, if gradual—a development of which there is ample illustration in the history of Rome herself. The private practitioner was in ancient times revered as deriving his skill from the gods and he requited that popular reverence by bringing about the enactment, "Salus popu'i suprema lex esto." The Eternal City had its sacred groves with their hygienic advantages; it had its wealth of pure water; its stupendous hydraulic works; its sumptuously appointed baths open to all; its vast drainage system. It had its sagacious provisions in abatement of sexual and vicious excess, and it had also a State regulation of agriculture, in which the conservation of woods was not overlooked. It had special ordinances for the destruction of unwholesome aliments, for the provision of personal hygiene in dress, in housing, in travelling by road or by water. Add to all this the universal discipline of the body by gymnastic exercises and by massage and it can be understood how such a city not only became, but justified her becoming, the mistress of the world. Let the Rome of the twentieth century remain true to her ancient and honourable traditions and continue, with the increasing resources of science, to minimise the conditions under which disease originates and spreads, grappling with the etiology and prevention of the three great scourges of Italy—malaria, pellagra, and tuberculosis—and proceeding from the conquest of these to other limitations of the insanitary area till the whole civic life, from the labourer and the artisan to the highest employé in the service of the State, shall transact its business or carry out its work undisturbed and unimpaired by the adverse forces it has struggled against so long. From this comprehensive programme Dr. Baccelli descended to details as to the best mode of dealing with sanitary and hygienic abuses, classifying the different fields in which amendment was called for and suggesting the appointment of commissions, composed of specialists, to take them competently and effectively in hand. To qualify for service on such commissions should in future be an object of ambition to the medical student, while his best starting-point could in no case be other than the clinical ward supplementing the laboratory, physiological and pathological. Citing Virchow as a "Titan of medical science" who was a pioneer in all that underlies State hygiene and social well-being, Dr. Baccelli paid an eloquent tribute to the memory of physicians and surgeons lost to the profession and the world within the last year—Potain, Gerhardt, Liebermeister, Kussmaul, Ziemssen, Porro, Targioni, Tozzetti, and others—and resumed his seat amid repeated rounds of applause. The business of the Congress was then proceeded with, but the papers and the discussion which they evoked must be reserved for another communication. Meanwhile, an interesting feature of the first day's business was the presentation to Dr. Baccelli of a magnificent parchment, the gift of the "clinici e patologi Italiani," in token of their gratitude for his contributions to the science and art of medicine. The parchment, finely illuminated by the painter Barucci and inclosed in a leather frame designed and moulded with exquisite taste and skill by a master in that *métier*, Bartolozzi of Siena, is inscribed with Gothic lettering, as follows:—

Quum Romae . in duodecimo conventu Societatis Italicae de Medicina interiore . mirum pertractaretur argumentum . quo medicamina intimis venarum viis inserantur . — hanc chartam tum Clinici tum Patologi Italiae . gratulantes atque admirantes dicabant . Guidoni Baccelli . hujusce novi salutiferae artis adjumenti . inventori felici audacissimo propagatori constanti firmissimo . — existimationis in virum eminentem . ipsa documentum existat . celebratura in aevum . hanc non postremam tanti nominis gloriam.

Oct. MCMII.

(When at Rome the Twelfth Congress of Internal Medicine discussed the marvellous subject of the endovenous injection of medicaments, this parchment, as a mark of admiration and gratitude, was presented by the clinical and pathological professors of Italy to Guido Baccelli, to whose felicitous invention and intrepid, staunch, and effective advocacy the healing art owes this new addition to its resources. In attestation of our esteem for the man may the parchment long continue to commemorate this triumph—not, we hope, the last—of so distinguished a name.) The presentation, made by Professor Putella of Siena, was acknowledged with his accustomed promptitude and effect by Dr. Baccelli who modestly ascribed whatever merit his discovery might possess to the clinical studies in which they all had a share.

Oct. 28th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Nile Reservoir Dam at Assouan

ACCORDING to Mr. Willcocks Egypt possesses to-day 6,250,000 acres of cultivable land, of which about one-third is now irrigated by the ancient or basin system of irrigation and two-thirds nominally receive perennial irrigation. But the existing summer supply of the Nile in low years is only sufficient for a part of this large area; the remainder must wait for water which can only be supplied by the new reservoirs. From the day when that great reformer Muhammad Ali Pasha first interested himself in perennial irrigation the importance of reservoirs has always been recognised in Egypt. It was not until 1898, however, that funds were provided by Sir Ernest Cassel who with Sir John Aird as contractor and Sir Benjamin Baker as consulting engineer arranged to construct a dam at Assouan and a weir at Assiout. The Assouan reservoir marks an epoch in dam building all over the world, for there must be many sites in South Africa, Australia and North America where similar dams will supply a long-recognised want. It allows the early floods, laden with deposits, a free passage when the river is high, but in low years it can be used, as on the present occasion, at the time of highest flood of a bad Nile. In either case it holds up the comparatively clear waters of the end of the inundation and stores them for subsequent use during the rest of the year. At estimated prices, allowing for the full depth of the foundation, the dam will cost £1,750,000 and will provide 70 milliards of cubic feet of water. However Egypt requires for her full development 200 milliards and engineers are already beginning to study the question of where the next reservoir should be built higher up the Nile, between Assouan and the equator. The Abyssinian lake of Dembea or Tsana is conveniently handy, but it might be extremely indiscreet on political grounds to put one of the great public works of Egypt at the mercy of a ruler who might become hostile to Egypt and England. No objections on political grounds can be raised to the Victoria and Albert Nyanza lakes at the source of the White Nile, for they are situated in British territory which will soon be in communication with the sea by means of the Uganda railway. To condense Mr. Willcocks's views, I can say that lake Victoria Nyanza with its area of 26,000 square miles and an annual rainfall of 30 inches, is the true key of the Nile, and whoever holds it controls the destiny of Egypt. Under the old system of basin irrigation this would not have been so, for the flood waters of the Abyssinian rivers were of infinitely more importance than the perennial waters of the equatorial lakes. Modern Egypt, however, with cotton and sugar-cane crops, watered by the summer supply of the Nile and the modern system of perennial canals, is absolutely dependent on the equatorial lakes. From Shembé, which is about 800 miles from the lake Victoria, and nearly 2000 from Assouan, stretching to the mouth of the Gazelle river, at lake No, we have for about 200 miles the true swamp, or sudd, region. Everyone knows how the sudd can block the Nile, but it may just be mentioned that the Bahr-el-Gebel, which in 1840 carried the whole supply of the Victoria and Albert lakes as a broad open stream some 1200 feet wide and 15 feet deep, was in December 1899, well nigh obliterated for 150 miles. The removal of the sudd by Major Peake cost £15,000, but set free enough water to save Egypt from the threatened drought and made her a present of £4,000,000 worth of cotton. The creation of reservoirs and the breaking up of the sudd are problems which do not affect only agriculture and finance, for the future sanitation of the country may be considerably altered by banking up great volumes of water in the Upper Nile and reducing almost to stagnation the velocity of the river between Cairo and the sea during the low Nile months of May and June. Whatever the result may be on the purity of the river supply, one obvious remedy for a city like Cairo is to cease to be dependent for drinking-water upon the river itself and

to bore artesian wells in suitable places and in sufficient numbers to supply the inhabitants with filtered water at all periods of the year. During the last 16 years many wells for drinking-water have been sunk in Cairo and towns to its north and in every case (except in Alexandria) an abundant supply of pure, unfiltered water has been obtained, and though the statistics of the present cholera epidemic cannot yet be complete it is gratifying to find that big towns like Tantah, which have lately been given a well supply, have this year not suffered from cholera, in spite of awful visitations during former epidemics and considerable neglect of general sanitary precautions. The present chief need for Egypt is an abundance of pure water, which can be obtained by thoroughly opening up the White Nile and letting the water of the great equatorial lakes come down unpolluted by the swamps of the sudd region.

Cholera News.

The epidemic, as prophesied, is slowly coming to an end, though there will be probably for weeks to come a few sporadic cases. During the last 24 hours there were only 51 fresh cases in all Egypt and there are now no more than 100 patients in the whole country under treatment. Cairo remains free from the disease and several of the big provinces have no cases reported in the daily bulletins which are still published. The number of deaths outside hospitals is practically *nil* except in Behera in Lower Egypt and in Keneh in Upper Egypt. In the case of Behera this is caused by the fact that now is the season of ripe dates, which necessitates a good deal of buying and selling in villages of that particular province which are entirely dependent for drinking-water upon wells, and it is from Edku in Behera that cases of cholera are now being imported into Alexandria. In Keneh there does not seem to be any special reason why the disease should be lingering, except that this is one of the provinces last attacked and therefore there has not yet been time for the easily predisposed inhabitants to contract it and for the district to become immune. This involves the theory to which reference in previous letters has been made—namely, that when cholera becomes firmly established in a town or large village it takes about two months to rid the inhabitants of the invader. In a small village this is not at all the case, for there have been several instances this summer of a gradually increasing daily mortality from cholera which rapidly falls within three or four days of the sinking of pump wells and the distribution of a fresh and uncontaminated water-supply to the villagers. Some hundreds of pumps have been sent out since July by the Sanitary Department to villages dependent on wells, and in such cases the existing wells have been either closed altogether or thoroughly disinfected with lime. The constant decrease of cholera after this measure seems to prove that the well or the bucket or the rope was contaminated by cholera, though it is almost impossible to prove that the water in the well actually contains the pathogenic organisms. Happy is the country where one can almost everywhere be certain of finding an abundant supply of fresh sweet water from 60 to 100 feet deep without the aid of an English "water-finder." The towns and villages situated on the banks of the Nile or of the canals, which are, of course, branches of the Nile, have been as in the last epidemic protected as far as possible from water contamination by railings, by patrols keeping the banks clean, and by providing rafts for the spots at which goat skins and domestic jars are filled all day by men and women. As a matter of fact, although this epidemic has been very widespread the large towns have enjoyed considerable immunity. This is doubtless due to increased sanitary precautions, and let us hope a little to the fact that Europeans are willing to aid the medical officers, but chiefly to the improved water-supply of many towns. In the epidemic of 1883 only two towns made any attempt to supply filtered water to the people, Cairo and Alexandria. Since then Cairo has improved the intake and the filter beds, though the result is by no means adequate or satisfactory. Alexandria has made but little progress and the water-supply is a standing disgrace to the municipality and the rich influential Europeans who are its members. In 1896 a constant water-supply had been provided for Port Said, Assiout, and Suez, while now seven other towns get filtered water, Assouan, Beni Souef, Zifta, Zagazig, Mit Ghamr, Tanta, and Bordain. Moreover, the Government hospitals at Sohag, Minieh, Benha, and Shibeen-el-Kom have their own installation for filtered water. In Cairo water is not universally supplied but is limited to those persons who are willing to pay the very high charge of the private company which has a monopoly for distributing it. This summer, in addition to many already in use, 35 street taps direct from the company's main have been erected in the native quarters and are eagerly surrounded by crowds of the poorest folk. The most stupid Egyptian is intelligent enough to appreciate the advantages of clean water, though he will not give himself any trouble to get it. He expects that providence will provide him with it, like air to breathe.

Cairo, Oct. 27th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Loss of Life in Coal Mines.

IN his report on the output of coal in 1901 Mr. E. W. Parker, of the United States Geological Survey, presents statistics of fatal and non-fatal accidents which occurred in the process of mining coal in 18 states and territories during 1901. The total number of lives lost was 1467 and the total number of men injured was 3643. The number of tons of coal mined for each life lost varied from 426,094 in Maryland to 49,424 in the Indian territory. The average number of tons mined for each of the 1467 lives lost in these 18 states and territories was 188,668. In Pennsylvania the number of tons of bituminous coal mined per life lost was a little more than double the amount mined per life lost in the anthracite mines in the same state. Maryland enjoys the distinction of the largest tonnage per life lost, while the Indian territory has the largest percentage of deaths for the tonnage mined. Of 18 states one makes no report of the number of men injured, and seven, or more than one-third, make no report of the number of wives made widows; and 10, or more than one-half, make no report of the number of children made fatherless. Indiana, Montana, Tennessee, and Virginia, producing in round numbers 15,000,000 tons of coal in 1901, made no report of coal-mining accidents. The total number of men employed in the coal mines of the United States in 1901 was 485,544, who made an average of 216 working days, as compared with 448,581 men, with an average of 212 working days in 1901. The distribution of this labour in 1901 was as follows: in the anthracite mines, 145,309 men, with an average working time of 196 days; and in the bituminous mines, 340,235 men, with an average working time of 235 days.

Medical Inspection of the Public Schools.

The system of daily inspection of the 200,000 school children of New York by medical officers of the Board of Health for the purpose of detecting contagious diseases is giving excellent results. The corps of medical inspectors numbers 54 qualified physicians who devote four and a half hours each daily to these duties, beginning at 9.30 A.M. at the close of the opening exercise. Each pupil passes in review daily and once weekly a more thorough examination is made. The diseases daily sought for are measles, scarlet fever, mumps, whooping-cough, chicken-pox, pediculosis, small-pox, contagious diseases of the eyes, nose, throat, and scalp, and certain common affections. The children are trained to aid in the examination by showing rapidly the palms of their hands, the tongue, throat, &c. An experiment of lending the services of a nurse to the affected pupil or to his parents is being made. When the inspector has made the diagnosis and filled out the exclusion card the nurse, who has been lent temporarily to the department by the superintendent of the Nurses' Settlement, takes the card and accompanies the child home. If she is not rebuffed by the patient's parents she is able in many instances to teach them the proper home treatment for such a case. It frequently happens that a child's parents are fully aware that something is the matter with the child, but the ailment is regarded as trivial and the action of the inspectors is often regarded as unwarranted. Obstacles of this kind are hard to overcome and the problems with which the nurse is confronted are often difficult of solution. The nurse, under the direction of the school inspector, frequently treats the patients at their homes as an object lesson to the parents. The nurse makes as many as 30 calls in a day. The results of this feature of medical school inspection are so useful that an appropriation will be asked for for the purpose of employing from

15 to 20 nurses to engage in this work. There can be no question of the necessity and value of just such assistance to complete and to perfect the work of the medical inspectors. The statistics in connexion with medical school inspection are most interesting. The average daily attendance is 204,262. The number excluded and the ailments from which they suffered are as follows: measles, 6; diphtheria, 9; scarlet fever, 18; whooping-cough, 50; mumps, 28; contagious eye diseases, 3390; pediculosis, 7979; chicken-pox, 22; contagious skin diseases, 263; miscellaneous, 282; and acute catarrhal conditions of the eyes, nose, and throat, 36. During the first week 4700 (approximately) were excluded; during the second week, 3200; during the third week, 2600; and during the fourth week, 1500. The number excluded diminishes each week, and this is because the infectious factors have been recognised and removed, thus reducing the danger of contagion. The immense value of the thorough medical inspection of the public schools can be understood when it is remembered that shortly after the beginning of each school year there is invariably an outbreak of one or more of the acute exanthemata, such as measles, chicken-pox, scarlet fever, and the like. The public school is just as invariably the focus of infection.

Oct. 25th.

Obituary.

LENNOX BROWNE, F.R.C.S. EDIN., M.R.C.S. ENG.

THE death occurred on Sunday last, Nov. 2nd, at his house at Northwood, Herts, of Mr. Lennox Browne, consulting surgeon to the Central London Throat, Nose, and Ear Hospital. Mr. Browne was the son of Mr. Isaac Baker Brown, the well-known gynæcologist, whose practice in certain cases led to acrimonious discussion and action in the medical profession, and was, we believe, originally the bearer of his father's names. He was born 62 years ago and his early bent was towards art. As a painter, both in oils and water-colours, he attained great proficiency, but having qualified in 1863 as a Member of the Royal College of Surgeons of England he gradually ceased painting in favour of his professional occupation. For many years Mr. Browne had a large practice as a laryngologist and he was undoubtedly skilful in that branch of his profession, though his pathology was more than occasionally called into question. As surgeon and aural surgeon to the Royal Society of Musicians and to the Dramatic Sick Fund he became widely and favourably known to many patients in musical and dramatic circles, these making up a large proportion of his *clientèle*. He was a prolific author, and one of his books, "The Throat and Nose and their Diseases," a decidedly useful treatise, went into its fifth edition. Mr. Browne was a prominent Freemason and had held office in Grand Lodge. A man of many interests and varied aptitudes, he never reached the professional position to which his abilities entitled him and in which his indiscreet friends of the press persisted in placing him.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board in the subjects indicated at the October quarterly meeting of the examiners:—

Chemistry.—Ferdinand Byrne, University College, Liverpool; Carlton Atkinson Ellis, Percy John Lush, Vernon Lickford Matthews, Herbert Edwin Middlebrooke, and William Morgan, London Hospital; Mahmoud Maher, Cairo, Egypt; Francis William O'Connor and Richard Dominic O'Connor, St. Bartholomew's Hospital; John Noël Dudley Paulson, Edinburgh, St. Mary's Hospital and South-West Polytechnic Institute, Chelsea; John Allister Renshaw, Birkbeck Institute; and Horatio Nelson Ritchie, University College, Sheffield.

Practical Pharmacy.—John Foster Beale, Cambridge University and London Hospital; Percy Arthur Bodkin, London Hospital; Patrick Duncan McIver Campbell, St. Mary's Hospital; Ernest Patrick Carmody and John Wheeler Cleveland, St. Bartholomew's Hospital; Horace Charles Collier, Charing Cross Hospital; Arthur Melville Dowdall, University College, Liverpool; Robert Thomas Edwards, Glasgow University College, Liverpool, and London Hospital; Evan Robert Evans, University College, Liverpool; Edgar Faulkes, Guy's Hospital; Percy Gully, Charing Cross Hospital; Nelson Wood Hill, London Hospital; Thomas Huddleston, St. Bartholomew's Hospital; Robert Mackenzie Thurn, Cambridge University and St. Bartholomew's Hospital; Ralph De Veil King, St. Mary's Hospital; Thomas Clarkson Maxwell, St. Bartholomew's Hospital; Joseph Leopold Magnell, London Hospital; Harry MacGregor Newport, Charing Cross Hospital; George Alexander Paulin, Royal College College of Surgeons, Edinburgh; Thomas Costello Power, London Hospital; Leslie Rawes, St. Thomas's Hospital; Harold Trenchard Rossiter, University College, Bristol, and St. Thomas's Hospital; Alfred Ernest Rowlett, Guy's Hospital; Edward John Henry Rudge and Harold Munro Scott, London Hospital; Randolph S. George Seagrove, Guy's Hospital; George Alan Simmons, St. Thomas's Hospital; George Percy Brooking Snell, Middlesex Hospital; James Marsden Wall, St. Thomas's Hospital; Richard Geoffrey Williams, Cambridge University and St. Bartholomew's Hospital; and Harry Theodore Minden Wilson and Laureston Leonard Winterbotham, St. Bartholomew's Hospital.

Elementary Biology.—Frank Treadwell Boucher, Merchant Venturers' College, Bristol; Robert Francis Gerrard, University College, Liverpool; Arthur Reginald Hardy, Owens College, Manchester; Harold Howard Lecson, St. George's Hospital; Vernon Lickfold Matthews, London Hospital; Edward Pigott Minett and John Francis Ramirez, Guy's Hospital; and Henry Sowerby, St. Bartholomew's Hospital.

UNIVERSITY OF CAMBRIDGE.—At a Congregation on Oct. 23rd the following degrees were conferred:—

Doctor of Medicine.—A. W. Daniel, Emmanuel.

Bachelor of Medicine.—J. P. Hedley, King's; J. F. Alexander, Trinity; and E. H. Harrisson, Clare.

Bachelor of Medicine and Bachelor of Surgery.—W. W. Wingate-Saul, Trinity.

At the examination in sanitary science the following candidates satisfied the examiners in both parts of the examination:—

Richard Dalby Booth, Charles Wilkinson Brecks, George Frederick Buchan, Henry Edward Manning Douglas, Edmund Towers Fison, James Rochied Forrest, George Stuart Graham-Smith, John Turner Grierson, John Grimshaw, Allan Hair, Frederick Wynne Hardy, Edward Christian Hare, John James Rickard MacLeod, George Williamson McMillan, William Mair, Thomas Danily Paddock, Alexander Glen Park, Francis Barclay Willmer Phillips, Charles Grant Pugh, Philip Hedgeland Ross, Bertal Hopton Scott, James Beary Slattery, Thomas Henry Craig Stevenson, Walter Lewis Thomson, and James Stratton Warrack.

Dr. G. F. Rogers has been appointed demonstrator of human anatomy and Mr. J. S. Gardiner demonstrator of animal morphology.—The number of students matriculated on Oct. 21st was 868, the number on the corresponding day last year being 859.—Dr. W. H. R. Rivers, lecturer in physiological and experimental psychology at Cambridge University, has been elected to a Fellowship at St. John's College.—Dr. F. C. Kempson has been reappointed demonstrator of anatomy for five years.—Professor J. B. Bradbury and Sir Thomas R. Fraser have been appointed examiners in pharmacology, and Professor G. Sims Woodhead and Professor S. Delépine examiners in general pathology for the third M.B examination.—Mr. H. Owen Jones, demonstrator to the Jacksonian professor of organic chemistry, has been elected to a Fellowship at Clare College.

DR. R. H ADERS PLIMMER has been appointed Grocers' Company Research Student at the Jenner Institute of Preventive Medicine.

THE inaugural meeting of the Midland Medical Society for the session 1902-03 was held at the Grand Hotel, Birmingham, on Oct. 24th, Dr. H. W. Langley Browne being in the chair. There was a large attendance of members. A very interesting address was delivered by Dr. J. Mitchell Bruce who took for his subject the Acute Manifestations of Chronic Disease.

LITERARY INTELLIGENCE.—Mr. Arthur L. Humphreys, 167, Piccadilly, London, W., announces the immediate publication of a work entitled "The Imperial Yeomanry Hospitals in South Africa, 1900-1902." The book is in three volumes and the price is 36*s.* net. Volume I. deals with the Organisation and Administration of the Hospitals, Volume II. with the Field Hospital and Bearer Company, and Volume III. with Medicine and Surgery in connexion with the hospitals. The book is stated to be issued under the editorship of the Countess Howe, but her ladyship has, we presume, associated with herself in the work some medical gentleman whose name is modestly suppressed,

otherwise she might find herself rather at sea in medical matters.

DONATIONS AND BEQUESTS.—Under the will of Mr. John Corbett, of Impney, Worcester, £10,000 are bequeathed to the Corbett Hospital at Stourbridge, founded by him, and £1000 to the Worcester Infirmary.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. W. Doughty, L.R.C.S., L.R.C.P. Edin., has recently been presented by the villagers of Chillington with a gold chain and an illuminated address on his leaving the district to take up another practice.—Dr. Stuart A. Tidey has been presented with a purse and an illuminated address by Consul-General Chapman on behalf of the English and American colony in Florence on the occasion of his leaving that city.—At the Gymnasium Hall, Abertillery, on Oct. 13th, Dr. J. Owen James (who is leaving the district) was presented with a gold watch by the workmen of Tillery collieries and friends at Abertillery.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, OCT. 29TH.

Phthisis among Cornish Miners.

Mr. CAINE asked the Home Secretary if he could state the number of cases of miners' phthisis which had occurred within the area of the mining division of Cornwall for each year since, and including, the year 1886 and what number of deaths had occurred.—Mr. AKERS-DOUGLAS replied: The figures asked for are not in my possession and I doubt if they can be obtained. The latest figures of which I am aware with regard to the mortality among Cornish miners from phthisis are those published in 1897 by the Registrar-General. On the basis of the census taken in 1891 these show that if the mortality figure among occupied males generally from phthisis is taken at 100 that among Cornish miners would be 275. I would add that the health of the miners in Cornwall is at the present time the subject of a special inquiry on behalf of the Home Office.

THURSDAY, OCT. 30TH.

The Ventilation of the House.

It was announced that the Select Committee on this subject is still engaged upon its inquiry and is not expected to issue its report before the end of the session.

The Pay of Army Surgeons in India.

Dr. E. C. THOMPSON asked the Secretary of State for War if he would state when the increase of pay promised several months ago to captains and subalterns of the Royal Army Medical Corps serving in India would be granted, the amount of the increase in rupees, and from what date would the increase count.—Mr. BRODRICK replied: An increase in the pay of officers of the Royal Army Medical Corps below the rank of major, while serving in India, has been approved in principle, but the amount of increase is still under the consideration of the Government of India, which has been asked to telegraph its views as soon as it has arrived at them.

FRIDAY, OCT. 31ST.

Hospital Accommodation at Shorncliffe.

Sir EDWARD SASSOON asked the Secretary of State for War whether his attention had been drawn to a contemplated isolation hospital for infectious cases contiguous to the military hospital at Shorncliffe and close to the main road from Hythe to Sandgate; and whether, in view of the injury that would be inflicted upon the inhabitants of those districts, he would consider the expediency of establishing such an institution on another site.—Mr. BRODRICK replied: The whole question of hospital accommodation at Shorncliffe is under consideration; the point raised by my honourable friend will be borne in mind when deciding upon final sites for the buildings.

MONDAY, NOV. 3RD.

Medical Referees under the Workmen's Compensation Act.

Mr. BELL asked the Home Secretary whether he was aware that Dr. Frederick H. Morison, the medical referee for the Hartlepool county court circuit, appointed by the Home Office under the Workmen's Compensation Act, 1897, appeared as a medical witness for the respondent employers in a case under the Act entitled Peart *v.* Furness, Withy, and Co., and in two similar cases tried at the West Hartlepool county court on Oct. 17th; that in consequence of Dr. Morison so appearing, the judge sitting as arbitrator had to call in another medical practitioner as medical referee; and would he say whether it was in accordance with the rules under the Act for a medical referee so to act; and if so, would he take steps to amend such rules so as to avoid a repetition of such a state of things, and if it was not in accordance with the rules, would he take steps to remove the name of Dr Morison from the list of medical referees.—Mr. AKERS-DOUGLAS replied: The conditions on which a medical referee holds his appointment under the Workmen's Compensation Act preclude his holding any appointment from an employer or body of employers or workmen which would involve attendance on workmen who come within the provisions of the Act. But it must occasionally happen that a referee in the course of his ordinary practice attends a case in which a claim under the Act afterwards arises and when that happens the rule is that he must not act as referee in that case but that another referee must be called in. I understood that this is what occurred in the cases mentioned in the question and I am assured by the judge that Dr. Morison acted with perfect independence and integrity.

Sanitary Condition of the Island of Lewis.

The LORD ADVOCATE, in reply to a question by Mr. WEIR, said that the general question of the sanitary condition of the island of Lewis was receiving the consideration of the Local Government Board for Scotland. Certain aspects of the question were dealt with in the special report on Lewis by the Crofters Commission which had just been presented to Parliament and if the Secretary for Scotland thought that further information was required he would consider what course it was expedient to pursue.

TUESDAY, NOV. 4TH.

Inquiry into Workhouse Nursing.

Mr. LONG, President of the Local Government Board, said, in reply to a question, that the committee appointed with reference to the sick poor in workhouses had completed its inquiry and he understood that he would receive its report very shortly.

WEDNESDAY, NOV. 5TH.

Exemptions from Vaccination.

Mr. WEIR asked the President of the Local Government Board if he would state the number of instances since the passing of the Vaccination Act, 1898, in which the justices or magistrates had declined to grant a certificate under the conscience clause of that Act, on the ground that the applicant had failed to satisfy them within the meaning of the Act; and would he state the number of certificates of exemption granted under the conscience clause of the Act.—Mr. LONG replied: I have no information as to the number of cases of the kind referred to in the first part of the question. The number of certificates of conscientious objection actually received by vaccination officers down to June 30th last was 331,438.

Appointments.

Success of applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BILLINGTON, W., M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to Out-patients to the Queen's Hospital, Birmingham.

BRISTOWE, H. C., M.D. Lond., has been appointed Medical Officer of Health for the Wrington District of the Union of Axbridge, Somerset.

FLEMING, W. A., M.B., Ch.B. Edin., has been appointed Public Vaccinator for Balclutha and District, New Zealand.

GILLIES, MALCOLM, M.B., M.S. Glasg., has been appointed Medical Officer at Bowen and Health Officer for the Port of Bowen, Queensland, Australia.

GOODALL, J. STRICKLAND, M.B. Lond., &c., has been appointed Lecturer on Biology in the Medical School, Middlesex Hospital, vice R. A. Young, M.D., B.Sc., resigned.

HOWER, HENRY JOHN, M.R.C.S. Eng., has been appointed Visiting Surgeon to the Gaol at Blackall, Queensland, Australia.

MCDONALD, JAMES EDWARD FANCOURT, M.B. Melb., has been appointed Acting Medical Officer at Brisbane, Acting Health Officer for the Port of Brisbane, and Acting Visiting Surgeon to the Prisons at Brisbane, to the Fortitude Valley Police Gaol, to the St. Helena Penal Establishment, to the Lock Hospital at Brisbane, and to the Dunwich Benevolent Asylum, Queensland, Australia.

MILLER, E. J., L.S.A. Lond., has been appointed House Surgeon to the Tynemouth Victoria Jubilee Infirmary, North Shields.

MOLE, HAROLD F., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Bristol Royal Infirmary.

ROW, L. E., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Superintendent at the Hospital for the Insane, Goodna, Queensland, Australia.

RUBRA, H. H., M.D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the Great Northern Central Hospital.

SCHARLEIB, MARY ANN DACOMB, M.D., M.S. Lond., has been appointed Physician for Diseases of Women, Royal Free Hospital, Gray's Inn-road.

VAUGHAN, ETHEL MAY, M.D., B.S. Lond., has been appointed Assistant Physician for Diseases of Women, Royal Free Hospital, Gray's Inn-road.

VISICK, HEDLEY C., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the Great Northern Central Hospital, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

APPLECROSS DISTRICT OF THE PARISH OF APPLECROSS.—Medical Officer, Vaccinator, &c. Salary £135, with house and garden.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

BOROUGH ASYLUM, Portsmouth.—Assistant Medical Officer, unmarried. Salary £120 to £150 per annum, with board, lodging, &c.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon. Salary £100 per annum, with board and residence.

BRISTOL ROYAL INFIRMARY.—House Physician. Salary £100 a year, with apartments, board, and laundry.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C. House Surgeon. Salary £50 per annum, with board, residence, and washing.

COLCHESTER (BOROUGH OF) URBAN DISTRICT.—Medical Officer of Health. Salary at the rate of £475 per annum.

CROYDON GENERAL HOSPITAL.—Senior and Junior House Surgeons, unmarried. Salary £105 and £50 respectively, with board, laundry, and residence.

DEVON AND CORNWALL SANATORIUM FOR CONSUMPTIVES, Didworthy, South Brent.—Resident Medical Officer.

GREAT NORTHERN CENTRAL HOSPITAL.—Senior House Surgeon for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Resident Medical Superintendent. Salary 100 guineas per annum, with board and residence. Also House Physician, unmarried, for six months. Salary £20, with board and residence.

HOSPITAL FOR WOMEN, Soho-square.—Clinical Assistantships.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

KING'S COLLEGE, London.—Assistant Physician for the Out-patients' Department.

LAMBETH INFIRMARY, S.E.—Second Assistant Medical Officer. Salary £100 per annum, with apartments, board, attendance, and washing.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

LIVERPOOL (CITY OF) INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing and lodging.

LONDON HOSPITAL MEDICAL COLLEGE.—Assistant Demonstrator of Anatomy. Salary £90 a year. Also Medical and Surgical Tutors.

MIDDLESBROUGH COUNTY BOROUGH ASYLUM, Marton-in-Cleveland, Yorkshire.—Assistant Medical Officer, single. Salary £130 per annum, rising to £150, with apartments, board, and washing.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary £80 per annum, with board, attendance, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer; also Assistant Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, residence, and washing.

NOTTINGHAM (CITY OF) WORKHOUSE INFIRMARY.—Senior Resident Medical Officer. Salary £160 per annum. Also Junior Resident. Salary £120. Apartments, board, washing, and attendance in each case.

ROYAL PORTSMOUTH HOSPITAL.—Assistant House Surgeon wanted for six months. Salary at the rate of £50 per annum, with board, residence, &c.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.—Honorary Assistant Physician, also Honorary Assistant Surgeon.

SOUTH HANTS AND SOUTHAMPTON ROYAL HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with rooms, board, and washing.

SUSSEX COUNTY HOSPITAL.—Third House Surgeon, unmarried. Salary £60 per annum, with board and residence.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Honorarium of £25, with board and lodging.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior Resident House Surgeon, unmarried. Salary £100 per annum, with residence and board.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician; also House Surgeon, both for six months. Board and lodging provided.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Medical Registrar. Salary £50 per annum.

WEST RIDING ASYLUM, Wakefield.—Two Resident Clinical Assistants. No salary; board and apartments provided.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon for six months. Honorarium at rate of £75 per annum, with board, lodging and washing.

WORCESTER COUNTY AND CITY ASYLUM, Powick, near Worcester.—Assistant Medical Officer, unmarried. Salary £140, rising to £160.

Births, Marriages, and Deaths.

BIRTHS

BASDEN.—On Oct. 28th, at Stanford-le-Hope, Essex, the wife of H. S. Basden, M.R.C.S., L.R.C.P. Lond., of a daughter.

BERRY.—On Oct. 27th, at Wansford House, Watford, the wife of F. Haycraft Berry, M.D. Lond., of a son.

FISHER.—On Oct. 29th, at Wimpole-street, Cavendish-square, W., the wife of J. Herbert Fisher, M.B., B.S. Lond., F.R.C.S. Eng., of a son.

SANDWITH.—On Oct. 21st, at Cairo, the wife of F. M. Sandwith, M.D., F.R.C.P., of a son.

MARRIAGE.

CLARKE-STEVENS.—On Oct. 28th, at St. Bartholomew's, Horley, Surrey, Samuel A. Clarke, M.R.C.S., L.R.C.P. Lond., to Helena Mildred, youngest daughter of the late W. C. Stevens and Mrs. Stevens.

DEATHS

SHEPHERD.—On Oct. 28th, at Leeds, aged 44 years, Timothy Arundel Jordan Shepherd, M.R.C.S., L.S.A.

WARD.—On Oct. 27th, 1902, at St. Bartholomew's Hospital, Herbert S. Ward, M.B., B.S. Lond., M.R.C.S., L.R.C.P., of Rhiwbina, Glam., aged 25 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE SEXUAL QUACK.

IT has long been known that the various "electric appliances" or "invigorators," or whatever name that they go by, are nothing more or less than pure swindles. A correspondent has forwarded us a belt which he obtained from a quack named Jonathan Nicholson, who trades as "The Magnetic Nerve Invigorator Company," and who has an office in Budge-row. Before our correspondent bought the belt the usual lot of "literature" was forwarded and all the old stock trotted out—spermatorrhœa, masturbation, emaciation, loss of memory, onanism, a terrible vice, and so on. Our correspondent asked us what we thought of the appliance. We told him there was nothing magnetic about the belt, not meaning this in the absolute literal sense, for we doubt if any steel article can be said to be absolutely non-magnetic. Fire-irons and tools are constantly found to be magnetic. In the belt are sewed 57 small pieces of steel. These, or at least two of them which we tested at random, are very feebly magnetised. Each has just sufficient power to lift two of the smallest iron filings that can conveniently be seen by the naked eye. But on putting the piece of steel on a table and shaking some iron filings on a piece of paper laid over it no lines of force were apparent around the poles, one or two only of the smallest filings showing any movement. The magnets are arranged in three rows and we will do Mr. Nicholson the justice to say that so far as we have tested them they seem to be arranged in proper series—i.e., the north poles in one row pointing to the south poles of the row above. They are, however, as we have already said, extremely feeble and, so far as is known, no magnetic current, even a very intense one, has any appreciable physiological effect upon living tissues. This was the outcome of some experiments made both upon men and animals by Dr. Peterson and Mr. Kennelly in New York (THE LANCET, April 22nd, 1893, p. 945). These observers came to the conclusion that the ordinary magnets used in medicine have a purely suggestive effect and would be equally serviceable if made of wood. Two of our representatives paid a visit to the "Magnetic Nerve Invigorator Company," whom they found in three small rooms at or near the top of No. 22, Budge-row, E.C. Mr. Nicholson was not in but his deputy attended and offered any information. Asked how he distinguished between magnetism and electricity he replied that one was natural force and the other was artificial—i.e., that it had to be made. When asked what a flash of lightning was he replied that he had never examined one, but that to produce electricity a battery was necessary, while for magnetism you only had to have a magnet. The belts were charged with magnetism according to price. When asked how he estimated the amount of magnetism which was put into the belt he wisely said that that was a trade secret. The great thing was that magnetism was natural and electricity was artificial. Unfortunately we have before us a letter from Mr. Dennison Light, the manager, who, in reply to a letter from our correspondent suggesting that the belt had been sent out without being magnetised replied that it was next door to impossible for such an error to have taken place and that our correspondent had better call with the magnets.

He continued: "If you cannot call return them and I will place them under the Batteries again." At the end of the interview our representatives asked for literature on the treatment and were referred to a book written by Mr. Nicholson called "Manhood Lost and Regained." They purchased a copy and found it to be the usual filth in which the sexual quack deals so largely. Our correspondent asks what he shall do. He has weakened his case by ordering the belt and he must either pay for it or return it, refuse payment, and fight the matter in court if necessary. We advise him to return it without payment, for we do not think that Mr. Nicholson will dare to bring his filthy business into the hard light of a law court.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can any fellow practitioner tell me of a suitable "home" for an elderly woman bedridden from rheumatoid arthritis? She is highly respectable and could pay about £1 per week. The case is urgent. Any information will be gratefully received by

2, Argyll-road, Kensington, Nov. 4th, 1902. J. L.

TRANSMISSION OF TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Dr. Köhler at the International Conference on Tuberculosis at Berlin the other day stated that "dried sputum and even the molecules in the air which emanated from it were highly infectious." Now, notwithstanding all I have read in the numerous papers that have been written on this subject, I have never yet seen the grounds described on which this statement can be proved. It is a statement that is made by all speakers and at every meeting, and I daresay I might be considered a deplorable ignoramus for not knowing the proofs of its being correct. Strange to say, however, I have asked several of my medical friends if they could give

me the information I wanted, but up to now I have failed to obtain it. Will you, therefore, excuse what may appear lamentable ignorance and clear this point up for the satisfaction of myself and others who are much interested in this important subject.

I am Sirs, yours faithfully,

Oct. 27th, 1902. M.D.

*** The fact that "dried sputum and even the molecules in the air which emanated from it were highly infectious" has been conclusively proved by experiments. Tuberculous sputum has been dried and the particles have been disseminated in the air of the hutches in which animals were kept, with the result that these animals developed tuberculosis. Inoculation experiments with dried sputum have been frequently performed, with the uniform result of transmitting tuberculosis to the inoculated animals.—ED. L.

PRIESTLEY SMITH'S LAMP.

To the Editors of THE LANCET.

SIRS,—In answer to Mr. J. Ffrench Blake, writing in THE LANCET of Nov. 1st, p. 1232, I beg to say that the right candle for my portable lamp is made of wax, not paraffin or tallow. It drops loosely into the tube and should give no trouble of any kind. If it be allowed to burn completely out in the socket the melted wax will cement the cap to the tube and the lamp must then be cleaned by immersion in hot water. The original makers of the lamp are Messrs. Bailey, opticians, Bennett's-hill, Birmingham, and the proper candles may be obtained from them. I may add that the lamp has been copied by several other makers at home and abroad, and in some cases badly copied. The strength of the two lenses, their positions in relation to the flame, their diameter, and that of the tube and candle, are all of importance and in some cases have been varied with detriment to the power of the lamp.

I am, Sirs, yours faithfully,

Birmingham, Nov. 3rd, 1902. PRIESTLEY SMITH.

CRAMP DURING PREGNANCY.

To the Editors of THE LANCET.

SIRS,—In answer to "S. L. B. W.," writing in THE LANCET of Nov. 1st, p. 1232, I can thoroughly recommend the following rather unscientific remedy for the above, as I have known of many patients during the last 22 years who have been cured and all were relieved to whom I have recommended it. Let the patient get two sticks of sulphur and hold one in each hand on lying down and keep it there. To prevent the sulphur breaking up let a piece of thin muslin be stitched round it. If "S. L. B. W." is not afraid of the simplicity of the remedy and will try it, I shall be pleased later to hear how it gets on in his patient.

I am, Sirs, yours faithfully,

Nov. 3rd, 1902. L.R.C.P. & S. Irel.

To the Editors of THE LANCET.

SIRS,—In answer to an inquiry of "S. L. B. W." in THE LANCET of Nov. 1st, p. 1232, asking for a suggestion as to the treatment of cramp in pregnancy I would ask him to try one-twelfth of a grain of sulphate of copper in a pill twice daily.

I am, Sirs, yours faithfully,

FRANK G. WALLACE, M.B., B.C. Cantab.

Earl's-court-road, Oct. 31st, 1902.

"FELS NAPHTHA SOAP."

WITH regard to an analytical record published in THE LANCET of Oct. 25th, 1902, p. 1135, dealing with this soap, a correspondent points out that by decomposing the soap with hydrochloric acid in the manner described loss of any naphtha present would be certain to occur. As a matter of fact, in repeating the experiment, taking care to decompose the soap in the distilling apparatus, so that there was no exit except by way of the condenser, we obtained a yield of over 5 per cent. of naphtha, a result which quite justifies the name of the soap and its undoubted merit as a cleanser is to a large extent due to this fact.

THE CURE OF BLINDNESS: A REPUDIATION.

THE following paragraph appeared in the *Daily Mail* on Oct. 27th and has since been copied, we are informed by the victim, into other papers:—

"A Torquay man of 21 who has been blind for 10 years has had his sight restored by Dr. McKenzie, of the Torbay Hospital."

Dr. H. V. McKenzie asks us to contradict the paragraph and to say that it appeared without his knowledge or consent. He informs us that, as well might be expected, he has been bombarded by letters for information from unfortunate blind persons and their relatives. The *Daily Mail* should surely have paused before inserting such a statement in a way calculated to make the public think that some miracle had been performed. If it had been ascertained what form of "blindness" the patient sufferer from it would have been perceived that the result of treatment was exactly what might have been expected.

OYSTERS.

To the Editors o THE LANCET.

SIRS,—In reply to "Quastio," keeping oysters for 24 hours in oatmeal and water does not ensure safety. Dr. Klein has just shown in a report to the Local Government Board that the typhoid bacillus not only lives but multiplies in the body of the cockle. I had previously found that the bacillus coli communis lies for many days, if not indefinitely, in the body of the same shell-fish, and more recent experiments made with oysters give similar results. At present it is quite impossible to say how long the typhoid bacillus will continue to live in an infected oyster, but I would certainly not advise anyone to consume oysters which had not been laid for some months in water practically free from any trace of sewage pollution.

I am, Sirs, yours faithfully,

JOHN C. THRESH,
Medical Officer of Health of the Essex County Council;
Lecturer on Public Health, London Hospital
Medical College.

Oct. 28th, 1902.

*** Dr. Thresh recommends Whitstable or Colchester natives; other correspondents have written recommending oyster beds personally known to them; in particular, a medical man vouches for the care that is exercised in regard to the oyster beds at Rosses Point, Sligo. The general opinion is that treatment for a day or two with oatmeal and water is no sanitary precaution though it may help to fatten the fish.—ED. L.

ELECTRIC LIGHT AS A THERAPEUTIC AGENT.

Scotia asks:—Can any reader of THE LANCET inform me who first used electric light as an agent in the cure of disease; also the exact year that such treatment was carried out?

Nottingham.—We do not know the preparation, but we shall be happy to analyse it if a sample is sent to this office. There was considerable discussion in our columns recently upon the best method of removing superfluous hairs, when the weight of opinion was entirely against depilatory applications as permanent remedies.

Cyclops.—We think that the debt ought to be recoverable if evidence is forthcoming to explain why the name was absent temporarily from the Register. Proceedings will be taken presumably through a solicitor, whose opinion would be given.

Psychology.—Our correspondent should apply to Dr. Debove, Dean of the Faculty of Medicine, Paris, and to M. Mourier, Director of the Assistance Publique, Paris.

Enquirer, R. D. and *H. M. S.* have omitted to inclose their names and addresses. In sending them to us will they repeat their questions?

M. D.—To practise in France it is necessary that a medical man should possess a French medical degree.

F. R.—None.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic 10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (10th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Clinical Cases:—Mr. W. G. Spencer: Scirrhus of the Tongue. Dr. A. F. Voelcker: (1) Ataxic Paraplegia; (2) Enlarged Cervical and Thoracic Glands (? Lymphadenoma).—Dr. W. E. Wynter: Innominate Aneurysm (Partially Cured).—Mr. J. Hutchinson, jun.: (1) Gumma of Left Pectoral Region causing Pressure on the Axillary Artery and Vein; (2) Pylorectomy for Stenosing Ulcer of the Pylorus; (3) Complete Prostatectomy (Supra-pubic) in a Patient, aged 82 Years.

TUESDAY (11th).—PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury square, W.C.).—8 P.M. Paper:—Mr. J. C. Umney: Drug Standards.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. C. B. Lockwood: Supra-pubic Cystotomy in Cases of Tumour of the Bladder with Special Reference to the Causes of Mortality and of Recurrence of the Growth.—Dr. A. G. Phear: The Clinical Associations of Reduplicated First Sound, Based on a Series of 109 Cases.

WEDNESDAY (12th).—SOUTH-WEST LONDON MEDICAL SOCIETY (Bolingbroke Hospital, Wandsworth Common).—8.45 P.M. Paper:—Dr. B. Fenwick: Backache in Women.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Paper:—Mr. A. H. Tubby: Recent Advances in the Treatment of Paralytic Deformities.

THURSDAY (13th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. H. Snow, Dr. Macnaughton-Jones, and others. Paper:—Dr. Macnaughton-Jones: The Propriety of Conservative Operative Procedures in Abdominal Cœliotomy for Adnexal Disease (illustrated by two specimens).

CHILDHOOD SOCIETY (Library of the Sanitary Institute, Margaret-street, W.).—8 P.M. Mr. J. C. Hudson: Handicraft in Connexion with Education.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Mr. A. Doran: Uterine Fibroids; Considered from a Clinical and Surgical Standpoint. (Harveian Lecture.)

FRIDAY (14th).—ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND (King's College, Strand, W.C.).—4 P.M. Annual General Meeting. Specimens by Dr. Salaman, Dr. A. Keith, and Dr. P. Thompson. Papers by Dr. R. J. Gladstone and Mr. F. G. Parsons.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M. Cases and Specimens will be shown by Dr. A. Bronner, &c. 8.30 P.M. Papers: Dr. F. W. Edridge-Green: On the Necessity for the Use of Colour-names in the Test for Colour-blindness.—Mr. S. Snell: (1) Avulsion of the Eyeball by Midwifery Forceps; (2) Paralysis of the Upper Movements of the Eyeballs; (3) Retinitis Pigmentosa in Five Generations.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. W. H. B. Brook: Cases illustrating the Clinical Features of an Epidemic occurring at Lincoln in May, 1902.—Mr. Mansell Moullin: Cases of Gastrotomy for Recent Gastric Ulcer.—Mr. H. McGavin: A Case of Strangulated Inguinal Hernia in which Reduction *en masse* was caused by the Employment of Taxis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MONDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. Little: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S. Tuke: Mental Disease in Early Life.

THE ROYAL INSTITUTE OF PUBLIC HEALTH (King's College, Strand, W.C.).—5 P.M. Major R. Ross, C.B.: Intermittent Fever. (Harben Lecture.)

TUESDAY (11th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. W. Hale White: The Natural History and Pathology of Pneumonia. (Croonian Lecture prepared by the late Dr. J. W. Washbourn.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. Rankin: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. C. Williams: Therapeutics of Finsen Light and Ultra-violet Rays, &c.

THE ROYAL INSTITUTE OF PUBLIC HEALTH (King's College, Strand, W.C.).—5 P.M. Major R. Ross, C.B.: Intermittent Fever. (Harben Lecture.)

WESTMINSTER HOSPITAL (Broad Sanctuary, S.W.).—4.30 P.M. Dr. Gossage: Valvular Disease of the Heart. (Post-Graduate Clinical Demonstration.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ormerod: Hysteria.

WEDNESDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Surgical Anatomy.

THE ROYAL INSTITUTE OF PUBLIC HEALTH (King's College, Strand, W.C.).—5 P.M. Major R. Ross, C.B.: Intermittent Fever. (Harben Lecture.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—3 P.M. Dr. Wethered: The Early Recognition of Pulmonary Tuberculosis.

THURSDAY (13th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. W. Hale White: The Natural History and Pathology of Pneumonia. (Croonian Lecture prepared by the late Dr. J. W. Washbourn.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Treatment of Some Injuries and Emergencies.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Waterhouse Demonstration of Surgical Cases. (Post-Graduate Course.)

FRIDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Gunn: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Cases of Skin Disease.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 6th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Oct. 31	30·20	W.	0·02	68	54	40	41	42	Foggy
Nov. 1	30·09	S.W.	...	78	59	42	49	50	Overcast
,, 2	30·20	N.E.	...	82	56	48	46	48	Hazy
,, 3	30·10	S.W.	0·01	57	54	48	47	49	Cloudy
,, 4	30·07	S.E.	0·01	76	54	44	47	49	Hazy
,, 5	29·70	S.E.		59	57	45	46	47	Hazy
,, 6	29·61	S.E.	0·17	69	57	47	53	54	Cloudy

During the week marked copies of the following newspapers have been received:—*Derbyshire Times, South Wales Daily News, Leeds and Yorkshire Mercury, Coventry Herald, Local Government Chronicle, Manchester Guardian, Herefordshire Mercury, Aberdeen Free Press, Echo, Times of India, Hong-Kong Weekly Press, Windsor and Eton Express, Pharmaceutical Journal, Sunday Magazine, Kensington News, Westminster Gazette, Literary Digest (New York), La Caducée, Rivista Medica de San Paulo, Il Policlinico, Bristol Mercury, Birmingham Daily Mail, Liverpool Daily Post, Reading Mercury, Southampton Echo, Belfast News, Dublin Evening News, Knowledge, &c.*

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